SCIENCE AND SOCIETY
IN
ANCIENT INDIA

By the same author

Lokāyata: A Study in Ancient Indian Materialism
Indian Philosophy: A Popular Introduction
Indian Atheism: A Marxist Analysis
What is Living and What is Dead in Indian Philosophy

SCIENCE AND SOCIETY IN ANCIENT INDIA

DEBIPRASAD CHATTOPADHYAYA

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PREFACE AND ACKNOWLEDGEMENTS

The book was originally planned to have three parts—the third discussing the sources of the Nyāya-Vaiśeṣika philosophy in the theoretical fundamentals of ancient Indian medicine. On later consideration, I have decided to publish the third part in the form of a separate monograph, for it is too full of technical details to sustain the interest of the general readers.

The present study is intended to supplement my recently published *What is Living and What is Dead in Indian Philosophy*, New Delhi, 1976. I have worked on both these books as a research fellow of the INDIAN COUNCIL OF HISTORICAL RESEARCH, New Delhi. While accepting full responsibility for the views expressed in these as well as for the data on which the views are based, I am anxious to explain that without the financial support of the ICHR, it would have been impossible for me to work full-time on these books. I am extremely grateful to Professor R.S. Sharma and Professor Barun De for the personal interest kindly taken by them in my work.

I had the opportunity of presenting the main theme of the present work in the form of an extension lecture at the National Library, Calcutta. Presiding over it, Professor Niharranjan Ray made a number of observations which helped me to modify some of my main points as well as to reemphasise some others. I am also indebted to the colleagues of Bangalore University for discussion of my main argument, which I had the opportunity of presenting again at Bangalore while delivering an extension lecture there.

While working on the present book, I had to depend much on Dr Mrinalkanti Gangopadhyaya of the Calcutta University, who has helped me with Sanskrit texts. I am thankful to Sri Arun Ghosh for preparing the Index and to Sm Kakoli Bose for secretarial assistance. In the matter of editing the manuscript and brushing up its language, the most arduous work has been that of Sri Radhamohan Bhattacharyya, whom it is impossible for me to thank enough.

Calcutta

August 15, 1977 *Debiprasad Chattopadhyaya*

NOTES AND ABBREVIATIONS

References in foot-notes are to works cited in the *Bibliography*. When more than one work by the same author are listed in it, the foot-notes mention the author's name followed by the initials of the title in roman capital. In other cases, only the author is mentioned in the notes. Abbreviations used for Sanskrit and Pali works, as well as for journals and general reference books, are explained in the *Bibliography*.

Numerations used for *Caraka-saṃhitā* refer to its Gulabkunverba edition (Jamnagar, 1949) and for *Suśruta-saṃhitā* to its Kasi Sanskrit Series edition (abbreviated as KSS-ed), 1972.

B and M are used respectively for English translations of *Suśruta-saṃhitā* by Bhisagratna and of *Caraka-saṃhitā* edited by Mehta and others.

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INTRODUCTION

1. PLAN OF THE WORK

The present study is divided into three parts, intended to answer three main questions. Despite ramifications, the questions are interconnected and may be viewed as three aspects of one basic question, namely that of the tension in ancient India between science and its opposite. From the viewpoint of science, the latter is referred to as the counter-ideology.

The first part of the study discusses the question of science and its decline in ancient India. It begins with a brief sketch of some of the prominent theoretical achievements of Indian science during its creative period. This is followed by an account of how the ideological requirements of the hierarchical society militate against these and finally stifle science.

At the present stage of research, however, the propositions from which the discussion starts may appear to be highly controversial. The real theoretical achievements of ancient Indian science are on the whole ignored and are sometimes even grossly misunderstood. An important reason for this is apparently peculiar. These achievements remain strangely muddled with many features of the counter-ideology even in the source-books of Indian science, i.e. in the form in which these reach us. Anything found in these sources therefore cannot be taken on its face-value, as indicative of science proper. It is neccessary to raise the rather unusual question : What is intrinsic and what is extrinsic to Indian science even in the extant basic works of it ? A good deal of textual analysis is needed to answer this. In

order not to be arbitrary, however, the analysis presupposes a clear criterion for the differentiation.

What then is this criterion ? This is sought to be answered in the second part of the present study, in which—depending on the criterion settled—an attempt is made to re-explore some of the more important source-books of Indian science.

Logically speaking, the present study should have begun with this textual analysis, on the legitimacy of which hinges its central argument. The only reason for putting it off for the second part is consideration of communicational advantage. Long digressions into textual details make it exceedingly difficult to bring the central argument into focus, without which the reader's interest in a book is not easily sustained.

But what accounts for the strange form in which the source-books of Indian science reach us ? Why, in other words, all sorts of alien ideas and attitudes remain mixed up with science in these texts ? This is answered partly in the first and partly also in the second part of the present study. The alien elements are of the nature of later grafts, and the grafts take place sometimes before these works attain their present form.

The motivation—conscious or unconscious—of grafting these on works of science may be inferred from their very nature. These are hostages given to the counter-ideology, when the law-givers' demand for it becomes increasingly oppressive. This does not rule out the possibility that the tendency of accommodating the counter-ideology within science results in course of time in a situation in which the former also becomes a part of the make-believe of the scientists. When this takes place, the scientists behave like split-personalities ; while accepting science they also prostrate themselves before its opposite. The tradition set up by them continues to create formidable difficulties for the development of science in India today.[1] But that is another story, into which we need not at present digress.

In the ancient period, the hostages given to the counter-ideology presumably helped the scientists to evade at least par-

1. See Chattopadhyaya in IMILL (ed. Nayak) 41ff.

tially the censorship of the law-givers. The works of science would not have perhaps otherwise survived, as in fact those of the plain-speaking heretics called the Lokāyatas did not.[2] But these also crippled and maimed science. Its internal decay and eventual collapse are largely due to these.

But what happens to the theoretical positions once gained by science ? These are not entirely lost. They survive in the general fund of Indian philosophical thought. Though usually neglected by the historians of Indian philosophy, what Indian science bequeaths to Indian philosophy is of immense significance. Without noting this, we can hardly understand the real source of some of the important trends of ancient Indian philosophy, particularly those that have an overtly secular and empirical interest. This is discussed in the third part of the present study. It tries also to analyse how the basic tension between science and the counter-ideology continues in the philosophical field and what damage is done by it to the development of philosophy.

Such, in brief, is the plan of the present study. It may be useful to follow it, if we begin with a brief sketch of its main argument.

2. THE ARGUMENT

The first question naturally is : What really is meant by science in ancient India ? The answer is suggested by the following considerations.

In ancient India, the only discipline that promises to be fully secular and contains clear potentials of the modern understanding

2. On the Lokāyata texts having been once in actual circulation, see Dasgupta HIP iii. 531 & 536 ; Chattopadhyaya L 6ff. The usual assumption that Jayarāśi Bhaṭṭa's *Tattvopaplava-siṃha* is the only surviving Lokāyata text is critically rejected : Chattopadhyaya, *Lokāyata-darśana* (Bengali, 2nd ed.) 9-41. Nehru (DI 100) conjectures that the original works of these heretics were presumably deliberately destroyed ; this agrees with the *Mahābhārata* story of burning them alive : Chattopadhyaya L 33f.

of natural science is medicine. The other disciplines more talked of in the orthodox circles are phonetics *(śikṣā)*, grammar *(vyākaraṇa)*, etymology *(nirukta)*, metrics *(chandas)*, calendrical astronomy *(jyotiṣa)* and even geometry—the last in the restricted sense of being a part of ritual technique *(kalpa)*[3]. Like the ritual technique, however, all these originate in the priestly circles, as parts of their scriptural lore. The traditional word for these is *vedāṅga*—limbs of Veda or scripture. These disciplines thus bear the birth-marks of anti-secularism and face formidable difficulties in developing towards science proper. The priests are interested in supernaturalism and mystification of nature[4]. They are therefore strongly opposed to "the simple conception of nature just as it is, without alien addition"[5], which, it is the basic purpose of science to work out, and on which is based "the system of behaviour by which man acquires mastery of his environment"[6].

By contrast, medicine—in spite of its historically inevitable humble beginnings—takes already in the ancient period the momentous step from magico-religious therapeutics to rational therapeutics, i.e. in the terminology of the physicians themselves, from *daiva-vyapāśraya bheṣaja* to *yukti-vyapāśraya bheṣaja*[7]. We shall later see what a wide range of theoretical and practical propositions is called for by this transition in the history of Indian medicine. For the present, the point is that this step is absolutely crucial and the inner demands of science oblige medicine to take it.

3. For a descriptive account of these disciplines, see Winternitz i. 268-289.
4. The typical priest-class formula repeated in the *Brāhmaṇa*-literature that the gods are fond of deliberate mystification will be discussed later.
5. Engels (DN 202) mentions this as the main point of the materialist outlook on nature. But the same may be taken as the simplest description of the main theoretical aim of natural science. This shows the instinctive affiliation of natural science to the materialist outlook: Chattopadhyaya in SSSA 210-232.
6. J. G. Crowther's definition of science quoted by Farrington GS 18.
7. This distinction is repeatedly drawn in the *Caraka-saṃhitā*, which also makes it quite clear that rational therapeutics alone represent the technique of Āyurveda. We shall later see how this contains the clue to the question concerning the date of Āyurveda.

But it is also a very risky step and the risk involved is frankly political. It is necessary to scrap for this purpose the spell of mysticism, ritualism and religion. These are sanctified by powerful priestly corporations, the ideological requirements of which are soon taken up by the Indian law-givers. The ancient Indian doctors are thus dragged into politics, without ever intending to be politicians themselves. They aspire to be too severely scientific to remain unnoticed by the establishment. To question —even by implication—mysticism, ritualism and religion necessitates also the rejection of the very way of life which all these intend to justify. In short, it amounts to the tendency of questioning the very norm on which the hierarchical society wants to thrive.

Already in the *Yajurveda*, the physicians come under strong condemnation.[8] The condemnation continues throughout the later legal literature—from Āpastamba and Gautama belonging to a few centuries before the Christian era to the late commentators of Manu, like Kullūka Bhaṭṭa of the 12-13th century A.D.

These are there for all to see. The historians of Indian medicine cannot tell their story without noting these. It is therefore amazing that practically none of them cares to do so.[9] We are generally asked to believe instead that Indian medicine develops smoothly from the scriptural or Vedic tradition and that the physicians are full conformists—working out their science in the cool of orthodox piety as it were. This may be a fairy tale, not history. Admitting that the *Yajurveda*, the vast *Brāhmaṇa*-literature, the *dharma-śāstra*-s and *smṛti*-s are aware of the norm of orthodox piety, it is impossible to escape the simple fact that its representatives take the most contemptuous view of the physicians and surgeons.

It is no doubt true that in the *Ṛgveda* specially the twin-gods

8. It is of considerable interest to note that the earliest ground mentioned for this condemnation is the democratic commitment of the physicians. This will be discussed later while analysing the *Yajurveda* passages first pronouncing contempt for the physicians : *Mait Saṃ* iv 6.2, *Taitt. Saṃ.* vi. 4.9, etc... 9. Bloomfield (SBE xliv intro. p. xxxix) is about the only notable exception to this general tendency of the modern scholars.

Aśvins are highly eulogised for their medical and surgical skill. Besides, one important theme of the *Atharvaveda* is medicine, though inevitably in its rudimentary sense of magical charms against diseases. But all this is true of a very early period, when the Vedic society itself is comparatively simple : it is yet to witness the stabilization of the hierarchical norm, which takes place from the times of the *Yajurveda*. From then on the counter-ideology required by the hierarchical society becomes increasingly powerful and it senses danger in everything having even the promise of secular science. Hence very strange things start happening in the history of ancient Indian culture. In spite of being gods, the Aśvins are degraded because of their medical past. In spite of being a Veda, the *Atharvaveda* is looked upon with subdued contempt—a contempt that sometimes becomes quite crude in the later legal literature.

The prolonged contempt for medicine and its practitioners in the officially approved social norm is the most serious external factor that interferes with the development of Indian medicine. The law-givers insist that its practice must remain restricted to those that are supposed to be base-born. One with the opportunity for education and other cultural openings is not allowed to go in for it—not at least within the strongholds of the officially approved norm.[10] In the whole range of the Upaniṣadic literature, we hear of none who is a physician. The lists of disciplines apparently having some prestige in the Upaniṣadic days are absolutely silent about medicine.

The Buddha resents this no doubt. There is a temporary flourish of medical science under his direct influence. It is not without ground therefore that in the later Buddhist tradition in

10. Takṣaśīlā, a famous centre for the cultivation of medicine, is considered an impure region by orthodox Brahmins : Thapar 59. Interestingly, though the extant *Suśruta-saṃhitā* wants us to believe that its spokesman Dhanvantari is incarnated as the king of Kāśī (i.1.2), Kāśī nowhere figures in the medical texts as a centre for the cultivation of medicine. The venues of medical conferences actually mentioned in the *Caraka-saṃhitā* are invariably certain obscure corners of the country, like "a certain slope of the Himalayas" (i.1.7) or "the Caitraratha forest" (i.26.6).

Tibet, the Buddha himself is remembered as a very great physician[11] and the Chinese traveller I-Tsing goes to the extent of attributing to him an actual medical work.[12] But all this seems to have a rather limited impact on the history of Indian medicine. Notwithstanding all that he does for the reform of the spiritual and moral climate of the country, the Buddha effects no fundamental social transformation. The hierarchical or *varṇāśrama* norm continues to entrench itself even in the areas ruled by kings with Buddhist creed[13] With the growing strength of the hierarchical norm, intensifies the contempt for medical science. The ultimate result is its complete decadence.

What ancient Indian culture loses thereby is to be judged from what ancient Indian medicine once promised. During its creative period—the period of its transition from magico-religious to rationalistic therapeutics—the basic requirements of complete secularisation of their discipline lead the physicians to create a methodology of their own. Discarding scripture-orientation, they insist on the supreme importance of direct observation of natural phenomena and on the technique of a rational processing of the empirical data. They go even to the extent of claiming that the truth of any conclusion thus arrived at is to be tested ultimately by the criterion of practice. Thus are first promised the fundamentals of a sound epistemology to Indian thought. Depending on this methodology, the physicians are moreover led to a general world-view, which is remarkable for the ancient

11. The work briefly called *rGyud-bshi* and the commentary on it briefly called *Vaiḍūrya-sṅon-po*. Also the history of medicine with the title *dPal-ldan gso-ba-rig-pa'i-khog-'bugs-legs-bśad-vaiḍūrya'i-me-loṅ-draṅ-sroṅ-dgyes-pa'i-dga'-ston.* These works, though yet to be analysed in the standard of modern scholarship, promise a great deal of important information about the history of Indian medicine specially under the Buddhist influence.
12. Takakusu 131. I-Tsing calls it "a Sūtra on the Art of Medicine." The work is not identified. The *Vinaya-piṭaka* (sixth *khandaka* of the Mahāvagga) attributes to the Buddha a long discourse on medicament. In this, however, the Buddha does not appear in the role of a medical authority. What he discusses is only the question of the nature of medicines, recommended by the doctors, to be allowed for the monks within the *saṃgha*. 13. Chattopadhyaya WLWD 207ff.

context. They move towards an uninhibited understanding of world and man—viewing both as made of the same fundamental stuff, which they call *bhūta* or matter and which they are inclined to understand as existing in five root-forms—the *pañca-bhūta*. They argue that this matter gets transformed into the infinite variety of inanimate and animate things of the universe because of laws inherent in nature or *svabhāva*—the laws because of which fire for example is hot and water cold. Therapeutic power is conceived by them mainly in terms of the knowledge of these laws : the clearer the physician's insight into these the better is his prospect of regulating the interaction between body-matter and environmental matter, which determines disease and health.

Convinced of such a basic theoretical position, the ancient physicians go in for a commitment which cannot but appear to be quite audacious for their historical context. It is a commitment to the understanding of nature as a whole. Since man is made of the same stuff of which everything in nature is made, there can be nothing in nature irrelevant from the medical viewpoint. Evidently enough, the technological and other equipments available in the ancient period cannot and do not allow them to implement the grand programme of understanding nature as a whole, i.e. not beyond a certain early stage of it. But that does not prevent ancient medicine to create potentials for various other natural sciences in their later specialised forms—for physics and chemistry, botany and zoology, minerology and climatology, not to speak of anatomy and physiology.

Thus, in short, of all the disciplines of ancient India, medicine alone acquires the full status of science.

Accordingly, ancient Indian science is discussed in the present study mainly in terms of medicine, the Indian word for which is *āyurveda*, 'the knowledge of long life'. It remains for us to see the special significance of the way in which the ancient doctors define or describe it.

The empirical data specially of the therapeutic agents of the plant world found in Āyurveda are colossal. It is moreover being increasingly realised that these retain significance as poin-

ters to fruitful research even for contemporary pharmacology. But this alone is not what makes Āyurveda exceedingly important in the history of science. As is rather well-known, the herbal pharmacy of many peoples surviving in the tribal pockets of the modern world has often amazed the ethnologist.[14] The pioneers of rational medicine *(yukti-vyapāśraya bheṣaja)* are, however, apparently aware that much more than herbal lore is required of one wanting to be a physician. As a modern translator of one of their source-books renders their point :

"The goatherds, the shepherds and cowherds and other foresters are acquainted with the names and forms of plants. No one can claim to have a perfect knowledge of pharmacology by the mere acquaintance with the names or even the forms of herbs. If one who knows the uses and actions of herbs, though not acquainted with their forms, may be called a pharmacologist, what then need be said of the physician who knows the herbs botanically, pharmacologically and in every other respect ? He is the best of physicians who knows the science of the administration of drugs with due reference to clime and season, and who applies it only after examining each and every patient individually."[15]

What the physicians are driving at is the need of a sound intellectual discipline, which, they feel, can alone raise mere empirical knowledge to the status of scientific principles. The technical word they use for this intellectual discipline is *yukti.*

It is a key concept of Indian medicine and it roughly means rational application. Among other things, what it requires is the knowledge of how a number of causes combines to produce an effect. The effect they aim at is therapeutic success and they are fully aware that the use of various natural substances *(dravya)* ensures it. At the same time they feel that something more than the mere knowledge of substances is required for their purpose. This something is the intellectual discipline or

14. P. O. Bodding, *Studies in Santal Medicine and Connected Folklore*, Asiatic Society (Memoir), Calcutta 1925. Cf. also Briffault i. 485.

15. *Caraka-saṃhitā* i 1.120-3. Tr G.

yukti. Hence they claim, "*Yukti* or rational application is the ultimate foundation of (therapeutic) success. A physician accomplished in rational application is always superior to one with the mere empirical knowledge of the substances." *(siddhiḥ yuktau pratiṣṭhitā/ tiṣṭhatī upari yuktijñaḥ dravyajñānavatāṃ sadā)*.[16]

Two important achievements of this intellectual discipline are already mentioned. These are the methodology of science and the view of man and nature. These two constitute the main theoretical plank of Āyurveda.

This aspect of ancient Indian medicine—its theoretical plank—seems to have profound significance not only for the history of science in its narrower sense but also for the broader context of the history of ideas. Yet it is precisely this which is most seriously misunderstood. There also good reasons for this misunderstanding. Hence is the special need of some preliminary clarification.

To begin with, the present state of discussion of the theoretical achievements of Āyurveda is on the whole dismal. A working scientist like D. D. Kosambi [17] sees practically nothing in it, and an Indologist as eminent as J. Filliozat[18] tries to build up an imposingly scholastic account of it, which is sadly muddled with alien cosmogony and even elements of crass mythology. However, what is usually said about the philosophical basis of Āyurveda is sheer intellectual garbage—some kind of a confused dump of incompatible metaphysics without even a remote relevance to medicine.

A typical example of this may be quoted from *A Concise History of Science in India*, specially because it enjoys the reputation[19] of being the outcome of the "National Commission for the Compilation of History of Sciences in India". In this

16. *Ib*. i.2.16. 17. About the only achievement of Āyurveda noted by Kosambi CCAI 175 : "The old Indian system of medicine *(āyurveda)* collected many useful cures, sometimes learnt from jungle-dwellers."
18. Filliozat's views will be later discussed in some detail. 19. For the general failure of the Commission, see A. Rahaman in IHR i.199ff.

book, the renowned historian R.C. Majumdar writes :

"There is a remarkable theory in Āyurveda to the effect that man is an epitome of the universe, a 'microcosm' of the macrocosm. Both the universe and man are manifestations of one and the same eternal spirit...The concept of the microcosm follows the philosophical doctrines of the Sāṃkhya and Vedānta schools of Indian thought. The theories of cosmic evolution of matter and life and of the common constituents of living and non-living matter are also based on Sāṃkhya and Nyāya-Vaiśeṣika doctrines. The idea of the eternal and omnipotent soul serving a span of existence inside an animated body, as a result of the residual effects of Karma (deeds in previous births), is from the Nyāya...The basic common concepts of Indian philosophy have also been largely incorporated into Āyurveda. Āyurveda accepts that the highest aim of life is the quest for ultimate truth and realisation ; that the perception of our senses is not valid in the absence of spiritual insight ; that suffering is due to the human error of discrimination (*sic*) between the body and mind which suffer and the spirit which is immune ; that the final wisdom is to shed passions and illusions ; that the supreme essence of power and awareness is present in man, making him potentially omniscient and omnipotent when he achieves self-realisation ; and that it is possible for the trained mind to achieve this self-realisation and salvation ; a healthy body, long life and a keen mind being desirable aids to this end."[20]

This looks like a queer junk-shop in which dismantled parts of various metaphysical models—sometimes with random labels stuck to these—are sought to be joined to each other, uninhibited by any consideration of their mutul coherence and, what is worse for our present discussion, with a total disregard for the question of their possible relevance to the theoretical requirements of medical practice. And yet we are asked to believe that this shows the philosophical conviction of the ancient doctors.

A full philosophical analysis of the passage would be tedious. But it is necessary to have some words at least on a few points

20. Majumdar in CHSI 237-38.

imagined to represent the philosophical foundation of Āyurveda.

It is true that the ancient physicians think that an adequate understanding of man presupposes knowledge of nature as a whole. In a sense, man is viewed as a microcosm of the universe. But the actual ground for such a view is just the opposite of what Majumdar believes, namely "both universe and man are manifestations of one and the same eternal spirit." Indeed, the philosophy of the one eternal spirit when carried to its logical culmination—as is done in Advaita Vedānta—leaves the universe including man with a precarious reality of its own, it being viewed as *māyā* or some kind of a phantom mysteriously conjured up by human ignorance.[21] By contrast, the view of the fundamental unity of nature and man, though taking shape in the dim antiquity as part of some cosmogonic speculation, is given a new content altogether by the physicians, when they view both as made of the same stuff, namely matter, which, the pioneers of science could understand no more satisfactorily than in terms of earth, water, air, fire and *ākāśa* (*pañca-bhūta*).

Pending the discussion of this, let us note here some other points. Majumdar says that for the view of this eternal spirit of which the universe and man are manifestations, Āyurveda is indebted to Sāṃkhya and Vedānta schools of Indian thought. To the same Sāṃkhya, however, Āyurveda is supposed to be indebted also for its theory of cosmic evolution of matter and life, and for the common constituent of living and non-living matter, though this time Sāṃkhya is amalgamated with Nyāya-Vaiśeṣika rather than Vedānta. In such capers of tall generalisations, little scope is left for sober chronological considerations. But we shall see that it is difficult, if not impossible, to think that the Nyāya-Vaiśeṣika philosophy takes shape much earlier than the creative period of Āyurveda, enabling the latter to borrow from it.

Chronology apart, Majumdar is quite casual about the labels

21. This philosophy is also called *śārīraka*, implying the most intense contempt for the body, which may as well be contrasted with *Caraka-saṃhitā* ii.6.7 attributing the highest importance to the body.

he attaches to the philosophical scraps mentioned. The transmigration of the soul determined by the law of *karma*, he says, is borrowed by Āyurveda from the Nyāya philosophy. But the simple fact is that centuries before the Nyāya philosophy originates—during the period of the Upaniṣads and perhaps even earlier—the theory of transmigration and *karma* wants to acquire a firm grip on Indian thought. Besides, though it later becomes some kind of common possession of various philosophical views, the epistemological discussions that form the special subject-matter of Nyāya seem to be peculiarly free from any real need of it.

In any case, whatever be the real place of the law of *karma* in Nyāya, the more important point for our present discussion is its basic incompatibility with the assertion of the intrinsic efficacy of medicine. *Karma*, if admitted at all, has got to be admitted as an omnipotent law, relentlessly determining whatever one enjoys or suffers in this life, inclusive of course of health and disease. Sickness as well as cure, if viewed as determined by the actions of the patient performed in his past life, leaves the physician at best as a passive spectator of these, instead of one actively intervening in medical matters, removing morbid conditions with standardised techniques of his own. But nothing is more repulsive than such a passive role to the Indian physicians themselves. We shall see how boldly they defend the intrinsic efficacy of their knowledge and technique.[22] They argue that the right physician rightly applying these cannot but cure the curable diseases, and that even for diseases that are incurable they can in many cases prescribe effective palliatives, thereby relieving the patients of the compulsion of suffering from these. This is surely one way of rejecting the law of *karma*, and we can perhaps see in this one of the important reasons why the law-givers are so much annoyed with the physicians. After all, *karma* provides the best ideological sanction for the hierarchical society so fondly visualised by the law-givers. Incidentally, it is of interest to note that at least a section of the

22. *Caraka-saṃhitā* i.9 & 10.

early Buddhists appears to see the incompatibility of *karma* with the basic theoretical requirements of medical science. In spite of being earnest about the former, they in fact propose to modify it in so far as they are serious about the latter. In the *Milindapañha* of *circa* first century A.D., the venerable Nāgasena argues in so many words that as far as diseases are concerned, their actual causes are to be sought outside the law of *karma*.[23]

Majumdar feels no need to note any of these points. He makes the physicians accept the law of *karma*, and, along with it, the entire gamut of the essentially religious view of the soul and its salvation, in the general scheme of which medicine is left with no serious significance. The mish-mash of metaphysics, which he wants us to accept as the philosophical aspect of Āyurveda, is not only totally irrelevant from the medical viewpoint but also positively opposed to its theoretical requirements.

One could have completely ignored all these, but for an extremely bewildering position. The views mentioned in the passage just quoted can be substantiated by actual quotations from the most important source-books of Āyurveda *in the form in which these reach us*. There are in these long discussions of Vedānta and Vedānta-oriented later Sāṃkhya, of the theory of transmigration and *karma*, of the soul and its salvation—not to speak of a heap of sundry superstitions widely popularised among others by the traditional law-givers.

Had this been merely so—had the source-books of Āyurveda been from the theoretical viewpoint a mere collection of metaphysical scraps like these—the historian of Indian science could have looked back at the ancient physicians as some kind of rag-pickers in the field of traditional philosophy, without the awareness of any specific theoretical requirements for their science. This is in fact the way in which Majumdar views them. Where he is wrong however is what he totally overlooks. The same source-books of Āyurveda that display all these also give us the unmistakable impression of developing the methodology of

23. SBE xxxv. 191ff. Details to be discussed later.

science and of moving on its strength to a view of man and nature directly relevant for medical practice. We are permitted to see the real theoretical basis of Āyurveda in these and these alone.

All this, however, means one thing. The source-books of Āyurveda in their extant forms give us the apparent impression of being quaint bundles of incompatible ideas. It is imposible for the modern student of ancient Indian medicine to escape this fact, specially because the incompatibilities are not merely philosophical. We shall mention here only a few examples of the extra-philosophical incompatibilities, because these enable us to see how crudely obvious they are.

In a number of passages, one of the basic texts of Āyurveda enthusiastically recommends the worship of the cow along with such holy objects as the gods and Brahmins. A typical example of this is the advice ; *deva-go-brāhmaṇa-guru-vṛddha-siddha-ācāryān arcayet*—"one should worship the gods, cows, Brahmins, preceptors, spiritual adepts and teachers."[24] In a number of other passages of the same text, however, we find the cow being discussed in a way which cannot but appear to be audaciously objective—even heretical—from the viewpoint from which the worship of the cow is recommended. We are told of the exact place the animal has in the general zoological classification of the ancient doctors, who are frankly interested in the classification because it gives them the clue to the properties of the animal flesh strictly discussed as diet or drug.[25] The doctors seem to be specially impressed by what we call the protein value of the cow's flesh. In their terminology, it is highly *māṃsa-kara* or 'promoter of flesh'.[26] So it is specially recommended to persons badly in need of adding flesh to their bodies—to those who suffer from the loss of flesh due to irregular fever, dry cough, etc. as well as to those that have excessive appetite because of living the life of hard manual

24. *Caraka-saṃhitā* i.8.18. 25. *Ib.* i.27. The discussion forms part of *māṃsa-varga* ('class of flesh') of *annapāna-vidhi* ('the principles of food and drink'). 26. *Caraka-saṃhitā* vi.2.158.

work. As the text puts it :

gavyaṃ kevala-vāteṣu pīnase viṣama-jvare//
śuṣkakāsa-śrama-atyagni-māṃsakṣaya-hitaṃ ca tat/[27]

We shall later see many more examples from the same text showing this dual attitude to the cow. These two attitudes, it needs to be noted, do not at all exemplify what is called "ambivalence" in Freudian psychology.[28] What they exemplify instead is only a flat contradiction, inasmuch as one cannot worship the cow as a god as well as freely eat it to satisfy one's mere physical requirements. But our understanding of the text cannot stop here and accept the contradiction on its face-value. Since it is a medical text after all, the more important question is : Which of these two attitudes to the cow is presumably the attitude of the physician proper ? There can be only one answer to this. It is the attitude to the cow's flesh judged as diet or drug and not the attitude to the cow judged as a holy object of worship. Evidently, the worship of the cow is recommended from the viewpoint of orthodox religion and the prescription of its flesh from that of medicine proper. In our text in its present form, the former is loosely superimposed on the latter, without any effort to make the two cohere.

Here is another obvious example. From the standpoint of orthodox religion, the text wants to look very pious when it recommends *brahmacarya* or celibacy and even goes to the extent of declaring that it is the best road leading to liberation.[29] The essential precondition of *brahmacarya* is absolute abstinence from sex and alcohol. Strangely, however, the same text contains a very long chapter (with four sub-chapters) on *vājīkaraṇa*, prescribing recipes for increasing sexual stamina. The chapter opens with a rather lurid description of how an exhilarating female partner best stimulates sex in the male.[30]

27. *Ib.* i.27.79-80. 28. There is no question here of any strong unconscious desire severely suppressed and hence seeking surreptitious gratification, as in the case of what Freud calls ambivalence.
29. *Caraka-saṃhitā* i.30.14. 30. *Ib.* vi.2A.4ff.

Elsewhere, while recommending the regulation of sexual behaviour according to seasonal variation, it advises one to have as much of sex as one may like with the coming of the winter : *prakāmaṃ ca niṣeveta maithunaṃ śiśirāgame.*[31] This, to say the least, can hardly be said by a real *brahmacarya* enthusiast.

So are the things said about alcohol. The text teaches the technique of preparing eightyfour varieties of alcoholic drinks.[32] and discusses the desirable consequences of their use. As these are summed up in a mnemonic verse : "Thus have been enumerated the 84 kinds of best wines, which invigorate the body and mind, stimulate appetite (lit. the digestive fire), cure insomnia, depression and anorexia and induce exhilaration."[33] It also contains a long discourse on the use and abuse of alcohol, which appears to be astonishingly objective even for our times. Though fully aware of the evils of morbid drinking, it comes out sharply against those who denounce drinking as such on the evidence of the undesirable consequences of excessive drinking. The consequences of excessive drinking can no more be an evidence for its general undesirability than the consequences of excessive eating of food being an evidence for the general undesirability of food. As the text puts it, "But, by its inherent nature *(svabhāva)* alcohol is to be viewed as on a par with food. Consumed without consideration of rational application or *yukti,* it leads to disease. Consumed with due consideration of rational application *(yukti)*, it is like nectar".

kiṃtu madyaṃ svabhāvena yathaivānnaṃ tathā smṛtam/
ayuktiyuktaṃ rogāya, yuktiyuktaṃ yathā'mṛtam//[34]

We hear in this the unmistakable voice of the physician, whatever the text may have to say elsewhere glorifying the religious ideal of *brahmacarya.*

Many more examples of such anomalies may easily be cited. But that is not necessary for our present purpose. What is necessary instead is to note a simple point. The most important source-books of Āyurveda in their extant forms are not coherent texts. These are full of anomalies and inconsistencies,

31. *Ib.* i.6.17. 32. *Ib.* i.29.7. 33. *Ib.* i.25.50. 34. *Ib.* vi.24.59.

ranging from the intermixture of incompatible philosophical views to crude contradictions of practical precepts.

How then are we to judge these texts ?

Are we to imagine that the ancient Indian physicians are so naive as not even to realise the incoherence resulting from such intermixtures ? For reasons to be explained later, it has proved frankly impossible to make such an assumption the basis of the present study. It is based instead on a different proposition. *The incompatibilities in the texts can be explained.* The source-books of Āyurveda need not be thrown away as mere muddles, for everything found in these need not be accepted as representing strict medical views ; there is surely a great deal indicative of genuine medicine, but there is also a heap of alien ideas and attitudes superimposed on these. The superimpositions take place sometimes before the texts assume their present forms, giving these their quaint appearance.

We have already mentioned what it is that possibly motivates the later representatives of Āyurveda to go in for such superimpositions. These are of the nature of ransoms offered to the counter-ideology—the stamp of religion given on science with the hope of making it acceptable to orthodoxy.[35] But there is also an exceedingly interesting point to be noted in this connection. In view of the fact that the hostility of religion to medical science is traceable to an ancient period—as ancient as the times of the *Yajurveda*—the tendency to save science by conceding to religion is also likely to be ancient. In other words, the presumption is that already in an ancient period medical science faces the risk of being invaded by the counter-ideology. In any case, in the most important source-book of Āyurveda itself, we see at least a section of ancient doctors—apparently the more conscientious of them—trying to resist their best the possible confusion of their science with alien ideas and attitudes, or, as they put it, with propositions properly belonging to the ritualistic and religious contexts.[36] So they formulate rules by

35. Cf. Farrington GS 94f. 36. *Caraka-saṃhitā* iii.8.54 ; iii.8.67. These, along with other similar formulations, are to be discussed in Book II of the present study.

which to differentiate between the truly medical and the extra-medical propositions. Their efforts do not unfortunately succeed. The medical text is invaded by extra-medical ideas and attitudes. But the criterion they evolve for differentiating what is intrinsic to medicine from what is extrinsic to it survives in the medical corpus itself. This enables us to make a critical assessment of the text without going outside it, i,e. without being obliged to depend on any criterion that may possibly be called arbitrary from the standpoint of Āyurveda. This is a unique advantage about the medical corpus. If it is eventually forced to assume the form of a strange amalgam of science and the counter-ideology, it also tells us how the ancient medical tradition itself wants to be clear about the difference between the two. We propose to discuss this in the second part of our study. For the present, let us have some idea of the source-books of Āyurveda.

3. THE SOURCES

The Indlan tradition speaks of three major source-books of Āyurveda, figuratively called the *vṛddha-trayī* or 'the three elder ones'. These are the *Caraka-saṃhitā*, *Suśruta-saṃhitā* and *Aṣṭāṅga-saṃgraha*. There exist also a considerable number of commentaries on these and many digests based on these. We are in possession moreover of some fragmentary—but on the whole early—medical works, like the so-called *Bower Manuscript* and the *Bhela-saṃhitā*. What come down to us as the *Kāśyapa-saṃhitā*, *Hārīta-saṃhitā*, etc., though undoubtedly bearing the names of some ancient authorities, are not considered to be really ancient works.

All these other works have occasional but on the whole incidental lights to throw on the history of ancient Indian medicine. But the *vṛddha-trayī* remain the most basic sources of our information of it. Of these, again, the *Aṣṭāṅga-saṃgraha* is more in the nature of a medical manual prepared by

a famous physician called Vāgbhaṭa, who undoubtedly depends on the *Caraka-saṃhitā* and *Suśruta-saṃhitā*. Without undermining its importance, therefore, it would be wrong to consider it as basic as the other two. Of these two, again, the primary interest of the *Suśruta-saṃhitā* is surgery, though on the whole it shares the doctrinal content of the *Caraka-saṃhita* and accepts the drugs and diets prescribed by the latter. At any rate, the *Caraka-saṃhitā* remains supremely important for understanding the theoretical position of Āyurveda, though for the purpose of a fuller view of this theoretical understanding, it is necessary to refer rather frequently to the *Suśruta-saṃhitā*. Accordingly, the present study is based primarily on the *Caraka-saṃhitā* supplemented by the *Suśruta-saṃhitā*.

We shall have here some rough idea of these two texts.

The *Caraka-saṃhitā* is an enormous medical compilation, parts of which are entirely in verse, parts in prose alternating with verse, parts simply in prose usually concluding with mnemonic verses. Its language, as Filliozat says, "is classical and does not correspond to a definite epoch."[37] On a rough calculation, it is about three times in bulk of what survives as the medical literature of ancient Greece, the so-called Hippocratic corpus[38].

The text contains 120 (or, counting the sub-chapters on *rasāyana* and *vājīkaraṇa*, 126) chapters in all. These are arranged in eight books, namely :

1. *Sūtra-sthāna,* discussing in 30 chapters the history, general principles, theoretical basis, etc. of medical science.
2. *Nidāna-sthāna,* intended to discuss in 8 chapters the causes of various diseases and their symptoms.
3. *Vimāna-sthāna,* discussing in 8 chapters a wide range of assorted topics, like the nature and qualities of matter, the process of transformation within the body of various natural substances consumed, the methodology of medical science, codes of conduct of the medical practitioners, etc.
4. *Śārīra-sthāna,* intended to discuss in 8 chapters mainly

37. Filliozat 50. 38. The calculation is based on the bulk of the *Hippocratic Corpus* in The Loeb Classical Library.

anatomy and embryology, though as a matter of fact the chapters often also digress into metaphysics, ethics etc.

5. *Indriya-sthāna*, discussing in 12 chapters various questions among which those concerning diagnosis and prognosis are prominent.
6. *Cikitsā-sthāna*, discussing mainly therapeutics—though also a great deal of dietetics and pharmacology—in 30 chapters (or, counting the sub-chapters of the first two chapters, 36 in all).
7. *Kalpa-sthāna*, containing 12 comparatively brief chapters, evidently supplementing the pharmacopoeia of the earlier books.
8. *Siddhi-sthāna*, containing 12 chapters on enema, purgation, urinary diseases, etc., mainly supplementing what is discussed in the other books.

A great deal of rigour is not maintained in the arrangement of the main subjects discussed in these eight books. The text as a whole is full of repetitions and digressions. It also describes debates and disputes among various authorities on questions of basic theoretical importance[39] and, what is highly interesting, the text insists that such debates are extremely useful for expanding the mental horizon of the doctors.[40] In any case, the *Caraka-saṃhitā* is fully aware of the differences of opinion among practising doctors[41] and even tells us of the works of different medical schools being in circulation : *vividhāni hi śāstrāṇi bhiṣajāṃ paricaranti loke.*[42] Though it is not easy for us to guess today what precisely is being referred to by these, there is no doubt that the *Caraka-saṃhitā* wants to specify certain conclusions as characteristic of the medical school represented by it, and hence as distinguishing this school from the other medical schools having conclusions characteristic of their own *(prati-tantra-siddhānta)*[43]. What is remarkable, however, is that, in spite of the awareness of the differences among the different schools of medicine, the text insists that there are certain conclu-

39. *Caraka-saṃhitā* i.12 ; i.25 ; i.26 ; iv.6 ; etc. 40. *Ib*. iii.8.15. 41. *Ib*. iii.5.4 ; iii.5.13 ; vi.3.65-6 ; vi.3.117 ; vi.3.192 ; etc. 42. *Ib*. iii.8.3. 43. *Ib* iii.8.37.

sions essential for medical science as such. In other words, there are propositions which—instead of being characteristic only of this or that school of medicine—are necessarily shared by all schools of medicine. These constitute the absolutely minimum body of postulates without which medicine is not at all possible. The text calls these *sarva-tantra-siddhānta* or conclusions unanimously shared by all schools of medicine, and says :

"Among these (conclusions) those are called the unanimously admitted ones which have reputation in each and every treatise on the subject (viz. medicine). Such are : there *are* causes ; there *are* diseases ; there *are* ways of curing the curable diseases".

(tatra sarva-tantra-siddhāntaḥ nāma tasmin tasmin sarvasmin tantre tat tat prasiddham ; yathā santi nidānāni, santi vyādhayaḥ ; santi siddhi-upāyāḥ sādhyānām iti).[44]

Such then is the general situation of ancient Indian medicine presupposed by the *Caraka-saṃhitā*. There are different schools of medicine with propositions characteristic of each. But there is also a number of minimum propositions for medical science as such. These are : 1) the principle of causality, 2) the recognition of the fact of disease, which seems to mean the acceptance of disease *as a disease* rather than any supernatural phenomenon and 3) the self-assurance of the doctor that there must be techniques of actually curing the diseases that are not incurable. In accordance with this understanding of the fundamentals of medicine, and specially with a sense of assurance in the healing technique, the text claims that, of the eight books into which it is divided, the most important one is the *Cikitsā-sthāna*, discussing therapeutics proper : "Thus has been explained the treatment of all diseases. This part of the work discussing therapeutics proper is the most important part of the entire treatise".

iti sarva-vikārāṇām uktam etad cikitsitam/
sthānam etat hi tantrasya rahasyaṃ param uttamam//[45]

But more of the significance of this later, specially for con-

44. *Ib.* iii 8 37. 45. *Ib.* vi.30.288.

trasting medicine of ancient India with medicine of ancient Greece.

The therapy recommended by the *Caraka-saṃhitā* is based mainly on the use of drug and diet. It recommends surgery only in a few exceptional cases and even this perhaps somewhat reluctantly[46]. By contrast, the *Suśruta-saṃhitā* wants emphatically to argue the primary importance of surgery in medical science. "All hold this *tantra* (*śalya-tantra*=surgery) to be the most important of all the other branches of Āyurveda, inasmuch as instantaneous actions can be produced with the help of such appliances as surgical operations, external applications of alkalies, cauterization etc., and secondly it contains all that can be found in the other branches of the science of medicine as well, with the superior advantage of producing instantaneous effects by means of surgical instruments and appliances. Hence it is the highest in value of all the medical *tantra*-s."[47]

Compared to the *Caraka-saṃhitā*, the *Suśruta-saṃhitā* is lesser in bulk. Like the former, however, it is also written in classical Sanskrit, partly in verse and partly in prose. The main body of the text contains 120 chapters arranged in five books. These are :

1. *Sūtra-sthāna*, discussing in 46 chapters various topics inclusive of the general principles of medicine, the use and construction of surgical appliances, practice of surgery, cauterization, etc.
2. *Nidāna-sthāna*, discussing in 16 chapters mainly the causes of diseases.
3. *Śārīra-sthāna*, discussing in 10 chapters mainly anatomy, embryology and the technique of dissection.
4. *Cikitsā-sthāna*, discussing in 40 chapters therapeutic techniques.
5. *Kalpa-sthāna*, discussing mainly toxicology in 8 chapters.

To this main body of the text is added, evidently later, an appendix in 66 chapters on assorted topics, which is called the *Uttara-tantra* or 'postscript to the treatise'.

46. *Ib.* vi.5.44 ; vi.5.63 ; vi.5 137-40 ; vi.6.58 ; vi.13.184 ; vi.26.68 ; vi.26.123 ; etc. 47. *Suśruta-saṃhitā* i.1.15. Tr B.

Such then are the main features of the two source-books of Indian medicine. We shall have a few more words on these helpful for our understanding of the history of ancient Indian medicine.

First, the *Caraka-saṃhitā* on which the present study is specially based.

As for its possible date, modern scholars have proposed various views. These range from the 6th century B. C. or much earlier to the 1st century A. D. or much later. We shall have to reopen this question later and shall see that though any tendency at absolute dating of the text is bound to be fallacious, there are important evidences suggesting what Filliozat calls "the epoch of the creation of the doctrine contained therein" is very likely to be pre-Buddha.

In any case, the medical tradition embodied in the text is admittedly ancient. But the only form in which it reaches us is quite later. After passing through various hands, it receives its present form from one Dṛḍhabala, who calls himself its final "reconstructor" *(pratisaṃskartā)*. What he tells us of the history of the formation of the work, shorn of mythologies, has some light to throw on its extant form.

The work begins with the account of a grand conference convened somewhere on the slopes of the Himalayas. It is attended by a fairly large number of ancient sages, who are all disturbed by the fact of human suffering caused by various diseases. Could this be a way of stating the simple fact that the original core of the work represented an effort to create a general pool of medical knowledge, which remained scattered among various doctors of different localities before this attempt at a systematic compilation of these in some congregation of the doctors ? But the text itself does not say anything about genuine medical questions being discussed in this grand assembly of the ancient sages. It is more interested in telling us a transparent fiction : one of these sages goes to heaven and obtains the knowledge of medicine from Indra,[48] the king of gods, who,

48. There is nothing in Vedic mythology to connect Indra with the medical tradition and, as we shall see, even in the *Mahābhārata*, Indra

in his turn, receives it from Brahmā, via Prajāpati and the Aśvins. In this garbled account of the descent of medicine from heaven to earth, one point appears to be quite striking. The earliest human authority on Āyurveda, according to our text, is a person called Bharadvāja. Interestingly, the text does not attribute to him any discourse on disease and cure. He is interested instead in the theoretical foundations of Āyurveda, which are very cryptically formulated by him as six categories—called the 'similar' *(sāmānya)*, dis-similar *(viśeṣa)*, qualities, substances, action and inherent relation : *sāmānyaṃ ca viśeṣaṃ ca guṇān, dravyāṇi karma ca / samavāyaṃ ca....*[49] In the history of Indian philosophy, we come across these categories in the Vaiśeṣika system, in which specially the first two acquire altered significance. But the more important point, as we shall later see, is that these categories are absolutely essential for the theoretical basis of Āyurveda, because only in terms of these that an enormous amount of empirical data, specially about the therapeutic agents, compiled presumably by generations of observers, are sought to be processed or systematically understood by the ancient Indian doctors. It is not improbable therefore that the *Caraka-saṃhitā* retains in its own way the memory of the earliest theoretician of the medical school.

But Bharadvāja is a common *gotra* or clan name of ancient India. Nothing of positive historical value can be made of the assorted legends associated with the name in the epics and mythological literature *(purāṇa*-s).[50] But what we read about him in the *Caraka-saṃhitā* itself is peculiarly interesting. Though admitting him to be the first human authority (or perhaps the earliest theoretician) of Āyurveda, the text seems to maintain a polite silence about him in its account of the transmission of medical knowledge. Thus the pioneer Bharadvāja notwithstanding, the extant *Caraka-saṃhitā* makes another sage called Ātreya—evidently also known as Punarvasu—the main spokesman

shows intense contempt for the Aśvins because of their medical past. For a strange way of connecting Indra with medical tradition see, Filliozat 3.
49. *Caraka-saṃhitā* i.1.28-9. 50. Mehta i.30ff.

of medicine. The entire *Caraka-saṃhitā* claims to be based on the oral instructions of Ātreya. Modern scholars like Filliozat[51] and Keswani[52] want to take it for granted that Ātreya in his turn is instructed by Bharadvāja. But the text itself does not say this. It simply drops Bharadvāja and begins anew with Ātreya and his pupils.[53]

Why is this peculiarity ? We have perhaps a clue to this elsewhere in the *Caraka-saṃhitā.* Bharadvāja is a staunch advocate of the view that everything happens in nature because of the laws inherent in nature—a view traditionally known as *svabhāva-vāda.*[54] This view is considered strongly heretical specially in the later intellectual climate of the country and one of the ways in which the extant *Caraka-saṃhitā* wants to look very pious is to introduce a long discourse into the text with the ostensible purpose of converting Bharadvāja, into a follower of orthodox religion and metaphysics.[55] This, as we shall later see in some details, is an extremely interesting internal evidence of the *Caraka-saṃhitā,* indicative of the anxiety at an ideological shift on the part of those through whose hands the text passes before reaching us. The only way of ignoring or overlooking the possibility is to imagine—as some modern scholars actually do—that the text mentions different Bharadvājas. But there is nothing in the text to support this. Besides, the more important question remains whether the theoretical fundamentals of Āyurveda can at all do without the view of *svabhāva.* We shall see that these cannot ; in other words, the assumption of laws inherent in nature is not a dispensable proposition for ancient Indian medicine.

But let us return to the *Caraka-saṃhitā* as finally "reconstructed" by Dṛḍhabala. In this, as we have just said, the exponent of medicine is supposed to be Ātreya. His oral discourse, we are further told, is codified by his foremost disciple called Agniveśa. Thus the typical form in which a chapter opens is : "Thus spoke the exalted Ātreya" (*iti ha sma āha*

51. Filliozat 60. 52. Keswani 10. 53. *Caraka-saṃhitā* i. 1. 30.
54. *Ib.* i.25.20-1. Details to be discussed later. 55. *Ib.* iv. 3.16ff. Details to be discussed later.

bhagavān ātreyaḥ). And the usual colophon at the end of each chapter is : "Thus in this treatise made by Agniveśa..." (*iti agniveśa-kṛte tantre...*). In other words, we are asked to believe that this enormous work is based on the oral discourse of one person, subsequently codified by one of his single students. Whoever may be responsible for trying to create such an impression, there are certain *prima facie* difficulties about it. The work is of the nature of a compilation or *saṃhitā*. In spite of the rather mechanical form maintained practically throughout the extant text that it is nothing but Ātreya's discourse codified by Agniveśa, there are places in which its editors or reconstructors appear to forget it. We shall mention here only three examples of this from the extant *Caraka-saṃhitā*.

First, as we shall presently see, on Dṛḍhabala's own admission, a considerable number of chapters are added to the book by himself. Peculiarly, however, even these chapters open with the stereotyped declaration : "Thus spoke the exalted Ātreya". Such a declaration is thus no more than a matter of mere formality.

Secondly, the eleventh chapter of the *Sūtra-sthāna* opens as usual with the statement that it is spoken by Ātreya. But the mnemonic verse quoted at its end attributes the discourse in it to "the wise Kṛṣṇa Ātreya" (*kṛṣṇātreyena dhīmatām*).[56] Are we then to think that the text refers to the same person alternatively as Ātreya" and Kṛṣṇa Ātreya ? But that is not very easy. Apart from the fact that the *Caraka-saṃhitā* itself attributes a number of recipes evidently to a different medical authority mentioned as Kṛṣṇa Ātreya,[57] later Indian medical tradition insists, as Mukhopadhyaya shows, that Kṛṣṇa Ātreya "belonged to the surgical school and could not have been the same as Punarvasu Ātreya"[58] or the alleged spokesman of our *Caraka-saṃhitā*. Incidentally, the chapter referred to is itself a rather quaint one. Its earlier part (up to i.1.33) is more interested in orthodox religion and metaphysics apparently oblivious of the

56. *Ib.* i.11.64. 57. *Ib.* vi 15.131 ; vi. 15.185 ; vi.16.71 ; vi.26.227 ; etc.
58. Mukhopadhyaya ii.440.

medical requiremcnts. The latter part of the chapter, however, is outspokenly medical in content, recognising—which is somewhat unusual for the *Caraka-saṃhitā*—surgical excision as a form of therapy equally important as medicine.[59]

Thirdly, in view of the fact that one cannot wilfully alter the proper name of an ancient and eminent authority depending on the meaning it conveys, we are sometimes left to wonder about the real personality of Agniveśa from the standpoint of the extant *Caraka-saṃhitā*. Though used as a proper name practically throughout the work, at least on two occasions the text follows the extraordinary procedure of concocting synonyms for it based on its literal meaning. Thus the same authority is also mentioned as Vahniveśa[60] and Hutāśaveśa[61]—both with the literal meaning of *agniveśa* or "one with fire garment", and, at least in the first case, even without any need for rhyming. Does this mean that Agniveśa is taken more as a descriptive epithet than the proper name of an individual authority ? Or does it mean that the very assumption of a single person codifying the vast medical compilation is more of the nature of an afterthought and hence forgotten by the editors in their unguarded moments ?

We have mentioned all these only to emphasise one point. It is hard to believe that the vast compilation with all its inner complexities is based on the oral instructions of a single person codified by only one of his students. The simple fact on the contrary seems to be that it contains the total pool of medical knowledge of a considerable number of ancient doctors and, what is also most important for our understanding of it, it passes through various hands before reaching us in its present form. Who then are the ancient doctors, the compilation of whose knowledge and experience seems to form the original core of our *Caraka-saṃhitā* ?

What we have so far discussed about the formation of the work throws no light whatsoever on a point of very great importance. In Indian tradition, the text firmly acquires the name *Caraka-saṃhitā*, literally Caraka-compilation. How are

59. *Caraka-saṃhitā* i.11.55. 60. *Ib.* i.13.3. 61. *Ib.* i.17.5.

we to explain this ? The only answer given to it by the work in its extant form is too thick to be seriously taken. Caraka, we are told, was some kind of an intermediate editor or re-constructor of the work, which, in its present form, is re-reconstructed or finally reconstructed by Dṛḍhabala. The story, in short, is that the work is originally expounded by Ātreya, codified by Agniveśa and revised by Caraka, i.e., already before it reaches Dṛḍhabala. Caraka's name thus occurs in the text *only* in its chapter colophons, which read : *agniveśa-kṛte caraka-pratisaṃskṛte*—"made (codified) by Agniveśa and revised by Caraka." Assuming this—assuming in other words that Caraka is only an intermediate editor of the work—his role in its formation can only be secondary. Why then—in spite of Ātreya and Agniveśa—the work should acquire fame as the *Caraka-saṃhitā* ? Secondly, Dṛḍhabala wants us to believe no doubt that Caraka is the proper name of an individual authority with extraordinary intellect. As he puts it, "This excellent treatise replete with truth is revised by the extraordinarily intelligent Caraka" : *ataḥ tantrottamam idaṃ carakeṇa atibuddhinā / saṃskṛtaṃ tattva-sampūrṇam....*[62] But it is extremely doubtful if the word *caraka* can be taken as the proper name of an individual authority. It literally means "the roving one". In ancient India, it is usually used as the descriptive epithet of many wandering sects, which were then quite common.[63] Such sects evidently included the sect of the roving physicians, the historical existence of which is evidenced by the name of a lost recension of the *Atharvaveda*, called Cāraṇa-vaidya or "roving physicians".[64] Besides, according to the Indian medical tradition itself, of the various trainings required of being a physician, one is called "roving about",[65] apparently because the search for the healing agents requires it. Thus, in short, the name *Caraka-saṃhitā* becomes hardly convincing if Caraka is taken to be the proper name of just an intermediate editor of the text. It seems to make far better sense if viewed as the compilation of medical knowledge of

62. *Ib.* viii.12.67-8. 63. Rhys Davids in JRAS. 1898 ; C. Bendall in JRAS 1901. 64. Dasgupta ii.283-4. 65. Mehta .241.

the ancient roving physicians. Could it be that because of the Brahmanical bias against the practice of wandering about—a practice that created difficulties for the observance of the various taboos prescribed in the law-books[66]—the word *caraka* is sought to be converted into the proper name of an individual, who is somehow connected with the medical corpus, though only in the capacity of its intermediate editor ?

All this, it will perhaps be objected, is highly conjectural. What is not at all conjectural, however, is that which Dṛḍhabala says in the text. According to his own admission, he is unacquainted with the text supposed to be originally expounded by Ātreya and codified by Agniveśa. What actually comes down to him is Agniveśa's version of the text as already edited or revised by an intermediate editor, whom he is pleased to call Caraka. From what Dṛḍhabala says, we can form no idea of the possible time-gap between Agniveśa's original codification of it and its subsequent revision by Caraka. But the time-gap between this intermediate editor and Dṛḍhabala—its final reconstructor—must have been considerable, because Dṛḍhabala says that during his own times about one-third of the work "codified by Agniveśa and revised by Caraka" becomes extinct. We are told nothing about the actual cause of this extinction. Could it be that the contempt for medicine expressed by the Indian law-givers—their insistence that its practice must remain restricted to the culturally under-privileged ones—had anything to do with the neglect and loss of a very substantial portion of it ? We do not have any answer to this from Dṛḍhabala. He simply tells us that he takes upon himself the responsibility of writing out these lost portions, which to be exact, consist of 41 out of the total 120 chapters. As he puts it,

"In this work of Agniveśa as revised by Caraka have not survived seventeen chapters (of the *Cikitsā-sthāna*) and also (the whole of) the *Kalpa(-sthāna)* and *Siddhi(-sthāna)*. For

66. Grierson in ERE x.570 : this orthodox contempt for 'roving about' gives rise amongst the Vaiṣṇavas the reform movement associated with the name of Rāmānanda. Evidently, the sedentary mode of living best suits the stagnant values of the *varṇāśrama* society.

the purpose of properly completing it (*yathātathaṃ pūraṇārtham*), these are written by Dṛḍhabala, son of Kapilabala."[67]

Elsewhere, towards the end of the *Siddhi-sthāna*, Dṛḍhabala explains the nature of his own contribution to the extant *Caraka-saṃhitā* in more detail. He says,

"For the welfare of living beings were composed one hundred and twenty chapters by the wise Agniveśa containing the words of sage Ātreya. ...The editor creates anew an ancient treatise, amplifying for this purpose what is cryptically said and condensing what is said much too elaborately. Since one-third of this work as revised by Caraka with incomparable intellectual accomplishment was found missing, it is completed by Dṛḍhabala, who is born in the town of Pañcanada (*pañcanada-pura*), after propitiating Śaṃkara (Śiva), the lord of all creatures. He has completed this treatise by adding to it seventeen chapters on therapeutics, the *Siddhi-sthāna* and *Kalpa-sthāna* and for this purpose has collected the distinctive propositions from a very large number of other treatises."[68]

Let us first try to be clear about the information we have about Dṛḍhabala the person in the two passages just quoted. He is born in the town called Pañcanada and his father's name is Kapilabala. Apparently he belongs to a very famous family of physicians, because Vāgbhaṭa mentions his father Kapilabala as having distinctive medical theories of his own.[69] The question of the geographical location of Pañcanada town is extensively discussed by the modern scholars,[70] who propose to view it as an old name of a town in Kashmir somewhere near the confluence of the Jhelum and the Sindhu. This, if true, means that Dṛḍhabala belonged to Kashmir. Could it be that this Kashmirian background of the final reconstructor of our *Caraka-saṃhitā* explains the contempt abruptly expressed in it for the south Indian peoples referred to as the Drāviḍas and Āndhrakas ?[71] In any case there is absolutely no medical

67. *Caraka-saṃhitā* vi 30 288-90. 68. *Ib.* viii.12.34-9. 69. *Aṣṭāṅga-saṃgraha* (KSS-ed) i.20 ; p. 193. 70. Hoernle in JRAS 1908.947ff ; 1909.857ff ; Mehta i.97ff. 71. *Caraka-saṃhitā* v.5.29 : seeing these persons in dreams is supposed to be as ominous as dreaming of the dogs, demons, untouchables etc.

relevance in the contempt thus expressed and we are going to see that Dṛḍhabala's personal prejudices presumably account for many peculiarities of the extant *Caraka-saṃhitā.*

As for the possible date of Dṛḍhabala, the modern scholars are left to conjecture on the basis of the reference by him to other authors or the reference to him or to his work by other authors—a procedure which, though not very satisfactory, is often the only one open before them for the purpose of dating literary sources. Depending roughly on such a procedure, it was earlier suggested by A. B. Keith, for example, that Dṛḍhabala possibly belonged to the eighth on ninth century A.D.[72] But Mehta argues that since Vāgbhaṭa's work is indebted to an appreciable extent to our *Caraka-saṃhitā* which shows no awareness of Vāgbhaṭa's work and since there are grounds to think that "Vāgbhaṭa cannot be later than the 4th century A.D.", we have to put Dṛḍhabala somewhere between the end of the 3rd century and the earlier part of the 4th century.[73] What makes this view really questionable is the assumption of Vāgbhaṭa's date, the only substantial evidence in favour of which is Mehta's claim that the astronomer Varāhamihira mentions Vāgbhaṭa. But Vārāhamihira belongs to the sixth century and there is nothing impossible for a scientist to refer to his contemporary. Priyavrata Sastri[74] in fact argues that Varāhamihira's reference to Vagbhaṭa notwithstanding, Vāgbhaṭa himself is strongly indebted for his astronomical calculations to Varāhamihira. In any case, we are yet to settle the date of Vāgbhaṭa and hence it is risky to try to settle Dṛḍhabala's date on the assumption that Vāgbhaṭa is aware of the *Caraka-saṃhitā* in the form in which it is finally "reconstructed" by Dṛḍhabala. On a very rough estimate, however, it may perhaps be permissible to assume that he belongs to the Gupta period or sometime near the sixth century[75].

More important for our understanding of the extant *Caraka-saṃhitā* is to note certain other points. On his own admission, he not only writes 41 missing chapters of the text but moreover rewrites its surviving 79 chapters depending for the purpose on

72. Keith HSL 506. 73. Mehta i.100f. 74. P. Sastri 156. 75. *Ib.*

various other treatises. This, to say the least, must have been a stupendous intellectual performance and we cannot but be amazed by it. At the same time we cannot overlook the possibility of the text suffering very serious modification from whatever little he says about the history of its formation. If there are difficulties in accepting his statement that Ātreya is the sole exponent of this vast medical compilation and Agniveśa alone codifies the whole of it, there is no ground to imagine that these names are totally fictitious. The presumption on the contrary is that these are names of eminent ancient authorities through whose hands the compilation passes before reaching its intermediate editor, whom Dṛḍhabala calls Caraka. We do not know, if at all, the earlier authorities add to or alter the work. But the possibility of this intermediate editor seriously altering the text cannot be ruled out, because, according to Dṛḍhabala, that forms part of the editorial responsibility of the "reconstructor". As he puts it, *saṃskartā kurute tantraṃ purāṇaṃ ca punaḥ navam*—"the reconstructor creates anew an ancient treatise".[76]

Even dismissing all this as conjectural, there can be no doubt that at least Dṛḍhabala follows his own editorial norm while rewriting two-thirds of the *Caraka-saṃhitā* that comes down to him and he has scope for even greater liberties while writing out the other third of the work, which he frankly acknowledges to be his own. The possible effect of all this is to be judged in the light of two other considerations.

First, Dṛḍhabala is anxious to pledge loyalty to a religious faith. He propitiates Śiva or Śaṃkara, the Lord of all Creatures, with whose blessings he manages to complete the work: *tat śaṃkaraṃ bhūtapatiṃ samprasādya samāpayat.*[77] It may be impossible for us today to judge the real depth of this religious conviction. The long drawn habit of offering ransoms to religion by the physicians might have created during Dṛḍhabala's times the make-believe that medical science can smoothly cohere with orthodox piety. Or it may be that it is

76. *Caraka-saṃhitā* viii.12.37. 77. *Ib.* viii.12.38.

the way in which Dṛḍhabala himself chooses to concede to religion, so that he can save what remains of the ancient medical corpus despite the intense contempt of the law-givers for medicine as such. In any case, it seems impossible to reject one possibility. We have in this loyalty to religion pledged by the final "reconstructor" of the work an unmistakable clue to the religious elements remaining in the *Caraka-saṃhitā* loosely superimposed on science.

Secondly, for "creating anew an ancient treatise", Dṛḍhabala feels the need of depending on various other treatises, evidently inclusive of those that discuss alien subject-matters. He completes the work, as he puts it, "by collecting distinctive propositions from a large number of other treatises" : *kṛtvā bahubhyaḥ tantrebhyaḥ viśeṣa-uñcha-śila-uccayam.*[78] Thus, the presumption is that for reconstructing the *Caraka-saṃhitā*, he collects materials also from non-medical works. The actual contents of the work in its extant form corroborate the possibility, because it is full of grafts of the distinctive propositions of various metaphysical and theological works.

The result of all this, to say the least, is devastating. When a person with a professed religious conviction proposes to create anew an ancient work on medicine depending on the declared policy that it is desirable for the purpose to depend on all sorts of treatises—evidently inclusive also of the non-medical ones—there is the obvious risk for the work as a whole assuming the form of being a jumble of science and superstition. And the fact is that the *Caraka-saṃhitā* does assume such a form. We may not know with certainty how much the work suffers this fate in the hands of those through whom it passes before reaching Dṛḍhabala. This much is fairly obvious however that Dṛḍhabala does not allow it to reach us without a great deal of grafts of alien ideas and attitudes on it.

At the same time, there is another point which must not be overlooked in this connection. Assuming Dṛḍhabala's religious conviction to have been very genuine, it does not go to the

78. *Ib.* viii.12.39.

fanatical extent of destroying or obliterating the theoretical positions once achieved by Indian medicine. In other words, notwithstanding his religious conviction, Dṛḍhabala also retains his conscience as a scientist. This makes the extant *Caraka-saṃhitā* apparently so peculiar. The religious and metaphysical elements introduced into the work by him—and perhaps also by some of his predecessor "reconstructors"—remain on the whole loosely superimposed on the genuinely scientific ideas and attitudes surviving in the same *Caraka-saṃhitā*. For understanding the history of Indian science it is as important to identify these alien additions to the text as to see what nevertheless survives under these conglomerates as positive achievements of ancient Indian medicine.

Filliozat comments on "the extremely brahmanic contents of the *Caraka-saṃhitā*", which, as he rightly says, "evokes the idea that its editor was ... a Brahmin of a Vedic school."[79] This, if somewhat uncertain of the intermediate editor referred to by Dṛḍhabala, seems to be more or less certain about Dṛḍhabala himself, only whose version of the text we are aware of. Keswani, however, makes a suggestion, which amounts to a possible way of looking at the ancient medical views without the religious bias added to these. It is to depend more on the other medical compilation, the *Suśruta-saṃhitā*. Both the compilations, he says, "on the whole, have similar contents, analogous divisions, and corresponding theoretical and practical data."[80] In spite of this similarity, however, Keswani thinks that the *Suśruta-saṃhitā* is surprisingly free from the priestly bias superimposed on medicine. As he puts it, "Charaka, in his writings, has a combined role of a moralist, philosopher and above all a physician ; whereas, Sushruta has tried to cast off whatever shackles of priestly domination remained at his time, and created an atmosphere of independent thinking and investigation, which later characterized the Greek medicine."[81]

Without complicating matters by bringing in the question of Greek medicine at this stage of our discussion, let us concentrate here only on one point, which is immediately relevant for

79. Filliozat 21. 80. Keswani 12. 81. *Ib.*

understanding the source-books of Indian medicine. If the doctrinal contents of the two compilations are on the whole the same, as Keswani admits, and if the *Suśruta-saṃhitā* is totally free from the "shackles of priestly domination", as he further claims, the simple procedure to see the medical views without the priestly bias superimposed on these would obviously be to rely more on the *Suśruta-saṃhita.* But the problem of the historian of Indian science is not so easily solved, because the alleged scientific purity of the *Suśruta-saṃhitā* is only an illusion. The fact on the contrary is that the only form in which this other medical compilation reaches us is not free from the priestly or Brahmanical bias. Indeed the priestly bias grafted on the *Suśruta-saṃhitā* sometimes creates worse confusions for us than does the *Caraka-saṃhitā.* We shall mention here only one example, showing how the text in its present form goes to the extent of making the role of the physician and surgeon abjectly servile to that of the priests. Says the *Suśruta-saṃhitā* : "Āyurveda with its eight sections is revealed by (god) Brahmā as a discipline subsidiary to the Veda. Hence the doctor, aware of his own role, must act in subservience to the priest (because the latter is the custodian of the Veda)."

brahmā vedāṅgam aṣṭāṅgam āyurvedam abhāṣata /
purohita-mate tasmāt varteta bhiṣak ātmavān //.[82]

This leaves the doctor with little or no confidence in the intrinsic efficacy of his own knowledge and technique—a confidence which all the priestly bias added to the *Caraka-saṃhitā* cannot obliterate from it. Thus the *Caraka-saṃhitā* declares : "The physician starting medical treatment in time and with proper medical knowledge—inclusive of the knowledge of the difference between the curable and incurable diseases—is absolutely certain to attain success."

sādhya-asādhya-vibhāgajñaḥ jñāna-pūrvaṃ cikitsakaḥ /
kāle ca ārabhate karma yat tat sādhayati dhruvam //[83]

In this defence of the doctor's role, there is no trace at all of any tendency to submit to the priests and their scriptural lore.

82. *Suśruta-saṃhitā* i.34.8 KSS-ed. 83. *Caraka-saṃhitā* i.10.7.

It obviously belongs to the hard core of medical tradition embodied in thc *Caraka-saṃhitā.*

Significantly, from this standpoint, the self-confident doctors compare themselves to the technicians—the cooks and potters—while the *Suśruta-saṃhitā* wants to ennoble the doctor's role with an insipid imitation of the priestcraft. Thus, according to the view fully shared by the two compilations, successful medical practice depends essentially on four factors—doctor, patient, medicine and nurse—of which the most important one is of course the doctor. But the ways in which the two compilations want to express this are quite different. The *Caraka-saṃhita* says,

"The physician, the drugs, the nursing attendant and the patient constitute the four basic factors of treatment. Possessed of the required qualities, they lead to the earlist cure of disease .. Of these four the physician occupies the chief place, being at once the knower (of diseases and drugs), the instructor (of the attendant and patient) and drescriber (of medicine and regimen). As the utensils, fuel and fire are to a cook in cooking, or as the terrain, army and weapon are to a conqueror in obtaining victory, so are the other three factors in relation to the physician in accomplishing the cure. Hence is the physician the foremost factor in treatment. As the clay, the rod, the wheel etc. are ineffective in the absence of the potter, so do the other three factors in the absence of the physician fail to accomplish the cure."[84]

But the same idea is sought to be conveyed by the *Suśruta-saṃhitā* with a very different analogy. It is the analogy of a sacrificial performance in which, of all the priests employed, the one called Adhvaryu is supposed to be the most important. Thus :

"The physician, the patient, the medicine and the attendants (nurses) are the four essential factors of a course of medical treatment··· In the absence of a qualified physician the three remaining factors of treatment will prove abortive, like a religious sacrifice

84. *Ib* i.10.3 & 10-3. Tr G.

performed with the help of an Udgātṛ, a Hotṛ and a Brahman in the absence of an Adhvaryu."[85]

The passages just quoted are, however, not to be misunderstood. These are intended only to show that the form in which the *Suśruta-saṃhitā* reaches us is not free from priestly bias. In certain contexts in which the *Caraka-saṃhitā* is refreshingly free from it, the *Suśruta-saṃhitā* shows this bias quite crudely. But this does not at all mean that the extant *Suśruta-saṃhitā* shows more of this bias. In many passages of the *Caraka-saṃhitā*, science remains completely submerged under superstition, while in many passages of the *Suśruta-saṃhitā* the viewpoint of science is least tainted by superstition.

What we are trying to drive at is a simple point. A comparative assessment of the two texts form the viewpoint of the superimposition of superstition on science in these is not so important as the form itself in which both the compilations reach us. If the later editors or reconstructors of the *Caraka-saṃhitā* feel obliged to concede to religion for the pursose of making the medical compilation sufficiently innocuous in the eyes of the law-givers, there is no reason to believe that those through whose hands the *Suśruta-saṃhitā* passes before reaching us do not feel the same obligation, specially because its hard medical core is the same as that of the *Caraka-saṃhitā*. If therefore the *Caraka-saṃhitā* somehow or other also preserves for us the criterion by which to differentiate the strictly medical from extra-medical ideas and attitudes in it, the same criterion—though not actually found in the *Suśruta-saṃhitā*—may be profitably used by us for making a similar critical assessment of this other compilation.

Less is unfortunately known by us about the history of the formation of the extant *Suśruta-samhitā*. We have seen how Dṛḍhabala, the final reconstructor of our *Caraka-saṃhitā*, gives many valuable clues to the history of its formation. The extant *Suśruta-saṃhitā*, however, wants us only to believe that once upon a time a number of sages approached Dhanvantari, *alias*

85. *Suśruta-saṃhitā* i-34.15 & 17. KSS-ed.

Divodāsa, king of Kāśī, who received Āyurveda from divine sources—Brahmā *via* Prajāpati, the Āśvins and Indra. Dhanvantari imparts medical knowledge to these sages, and one of them called Suśruta codifies his oral instructions. But it is too much to believe that this enormous compilation embodying a vast amount of empirical knowledge is codified by a single person depending on the oral discourse of a single authority. In spite of Hoernle[86], therefore, there is no sure ground proving the historicity of Suśruta, which literally means "that which is well heard", or "one who has thoroughly learned by hearing." Filliozat comments, "The personage of Suśruta not being historical, the *Suśruta-saṃhitā* shows itself to be not as the personal work of a certain Suśruta, but as the anonymously edited manual of a certain school which had selected a *suśrata* for patron."[87] Besides, there is at least one definite ground to think that the *Suśruta-saṃhitā* also does not reach us in its early form. "We know" continues Filliozat, "by the very tradition of this school, that this manual has reached us after having been retouched at least once. The commentator Ḍalhaṇa (xi-xii century A.D.) affirms in effect that Nāgārjuna has been the 'reconstructor' (*pratisaṃskartṛ*) of the *Suśruta-saṃhitā*. Cordier has put forward the hypothesis that he has also completed the earlier text by adding thereto the last section which now forms part of the *saṃhitā* and which is known as *Uttara-tantra*, 'Last Section (of the Book)'."[88]

This has given some of the modern scholars an illusory assurance about the date of the present version of the work, for Nāgārjuna is a very famous Buddhist philosopher of *circa* second century A.D.[89] The later Buddhist tradition attributes to him not only profound knowledge in alchemy[90] but also a very

86. Hoernle, *Osteology* 8. 87. Filliozat 11-12. 88. *Ib.* 12.
89. Keswani 13 not only identifies the editor of the *Suśruta-saṃhitā* with the founder of Śūnya-vāda but moreover places him in the second century B.C. ! See also his *Foreword* to Bhisagratna's translation of *Suśruta-saṃhitā* p.5. For the date of Nāgārjuna, see Venkata Ramanan 5ff.
90. Chattopadhyaya (ed) THBI 106 & 110.

large number of works on assorted subjects.[91] It is thus easy to imagine that he had great knowledge of medicine as well and hence could be the real reconstructor of the extant *Suśruta-saṃhitā.*

On critical considerations, however, such an assumption proves futile. The great alchemic knowledge of Nāgārjuna is only a transparent fiction leisurely fabricated by the propagandists of Mahāyāna and—apart from only a few texts—most of those attributed to him are spurious, trying to acquire authenticity by being associated with his name. Besides, there are philosophical and religious considerations which make it impossible to connect him with the *Suśruta-saṃhitā* as we have it, unless of course we are prepared to believe that for the purpose of editing the medical compilation he agreed to forget the fundamentals of his own philosophy and even renounce his otherwise intense sectarian affiliation to Buddhism. We shall discuss here only a few reasons explaining this.

Nāgārjuna is the founder or at least the first great exponent of the Madhyamaka philosophy, popularly known as Śūnyavāda. As a form of extreme idealism it is as much opposed to the fundamentals of natural science as a philosophy can possibly be.[92] Nāgārjuna shows the greatest zeal to prove the total unreality of nature or material world (*prapañca-śūnyatva*) in favour of an indescribable absolute (*tathatā* or *śūnyatā)* only mystically apprehended. Of the techniques followed by him for proving this, two are most prominent. These are: 1) the denial of causality[93] and 2) the damnation of experience and reason as sources of right knowledge.[94] With great scholastic skill he wants to prove that the concept of causality is only a fiction. He uses the same skill to "demolish the normal sources of knowledge" *(pramāṇa-vidhvaṃsana)*[95]—particularly experience

91. About 180 works are attributed in the Tanjur to Nāgārjuna, of which only a few are genuine. Chattopadhyaya (ed) THBI 385.

92. Chattopadhyaya WLWD Ch.s ii & iii.

93. This forms the main theme of the opening chapter of his *Madhyamaka-kārikā*, for an analysis of which see Stcherbatsky CBN 121ff.

94. S. Mookerjee in NNMRP i.1-175.

95. Nāgārjuna considers this theme so important for his philosophy that

and reason—without which he finds it impossible to substantiate his world-denying philosophy.

Can a philosopher like this have anything serious to do with the medical tradition ? The answer is obvious and it must be in the negative.

The concept of causality is absolutely crucial for Āyurveda.[96] It is a point fully shared by *Suśruta-saṃhitā* with the *Caraka-saṃhitā*, because without it the *Nidāna-sthāna* of both the texts become meaningless. We have already seen how the *Caraka-saṃhitā* insists that despite all differences between the different schools of medicine, the acceptance of causality is one of the minimum propositions required by all the schools *(sarva-tantra-siddhānta)*. Further, as we shall later see in some detail, the *Suśruta-saṃhitā* fully depends on the methodology of science elaborately worked out in the *Caraka-saṃhitā*, the main point of which is the use of experience and reason : without them the ancient physicians know no way of understanding the actual cause of a disease or of its cure. But not merely this. Along with the *Caraka-saṃhitā*, the *Suśruta-saṃhitā* tries to work out a theory of matter (*bhūta*) and of the modes of its transformation into living bodies—a theory without which Āyurveda is inconceivable. These are examples of some of the theoretical positions found in the *Suśruta-saṃhitā* and it is impossible to imagine that a vigorous Śūnya-vādin like Nāgārjuna can leave these uncensored in a book finally edited by him.

Philosophy apart, Nāgārjuna has a strong sectarian affiliation to Buddhist religion in its later form. But the religious ideas and beliefs superimposed on medical science by those who prepare the extant version of the *Suśruta-saṃhitā* are predominantly Vedic—i.e. *tīrthika* or 'alien' in the terminology of the later Buddhists. The text not only opens with the claim of being only an *upāṅga* or 'subsidiary discipline' of the *Atharvaveda*,[97]

he writes special treatises on it : *Vaidalya-sūtra* & *Prakaraṇa*, Tanjur mDo xvii. 3 & 8.

96. Dasgupta ii.396 discusses the point in detail.

97. For the meaning of *upāṅga*, see Dasgupta ii.273ff.

it recommends moreover in a cosiderable number of places the chanting of Vedic spells and invoking the blessings of the Vedic gods,[98] prescribes the propitiation of the Brahmin to obtain his blessings[99] and speaks of the desirability of performing Vedic sacrifice (*homa*) for medical purposes.[100] Ignoring completely the medical viewpoint, it even goes to the extent of describing how the major organs of the body and the main physiological functions are really controlled by the Vedic gods. Here is just one example :

"The tutelary god of intellection (*buddhi*) is Brahmā. The god Īśvara is the presiding deity of the sense of egoism *(ahaṃkāra)*; the moon god is that of the mind *(manaḥ)* ; the quarters of heaven, of the ears ; the wind god is that of the skin ; the sun is that of the eyes ; the water is that of the taste ; the earth is that of smell ; the fire is that of speech ; Indra is that of hands ; Viṣṇu is that of legs ; Mitra is that of the anus and Prajāpati is that of the organs of generation".[101]

This, it is needless to say, is not medicine and, as we shall later see, it goes completely against what the text has to say about the same organs and their functions. It is evidently grafted on the medical compilation by its "reconstructor", whoever he may be. For our present purpose it is necessary only to note that this reconstructor cannot be a Buddhist, because a Buddhist reconstructor of a text—if at all interested in inserting religious beliefs into it—is not supposed to insert beliefs that are crassly Vedic.

Thus, in short, the reconstructor of the extant *Suśruta-saṃhitā* called Nāgārjuna can by no means be the same as the famous Buddhist philosopher bearing the same name. Who then can be the person called Nāgārjuna, whom Ḍalhaṇa—evidently depending on some sound Indian tradition—calls the reconstructor of our *Suśruta-saṃhitā* ? Some of our modern

98. *Suśruta-saṃhitā* i.5.12 ; i.11.6 ; i.19.19 ; i.29.12 ; i.29.27 ; i.43.3 ; iii.1.7 ; iii.2.28 ; etc, Tr. B.
99. *Ib.* i.5.4 ; i.6.18 ; i.19.15 ; i.28.3 ; iii.10.2 ; etc. Tr B.
100. *Ib.* i.11.6. Tr B.
101. *Ib.* iii.1.7. Tr B.

scholars have their theory of two Nāgārjunas—one the Śūnyavādin philosopher and the other a specialist in alchemy and medicine.[102] Assuming this, we may expect to identify the reconstructor of the *Suśruta-saṃhitā* with this second Nāgārjuna. But then who is he and to what period does he belong ? Some hope of answering this question is roused by the account of Indian science left by the visiting Central Asian scientist al-Bīrūnī (973-1048), who travelled in India during A.D. 1017-1030. He mentions *rasāyana* as "an art which is restricted to certain operations, drugs, and compound medicines, most of which are taken from plants. Its principles restore the health of those who were ill beyond hope, and give back youth to fading old age."[103] Though al-Bīrurnī is himself extremely cynical about the scientific merit of *rasāyana*,[104] he tells us : "A famous representative of this art was Nāgārjuna, a native of the fort of Daihak, near Somanath. He excelled in it, and composed a book which contains the substance of the whole literature on this subject, and is very rare. He lived nearly a hundred years before our time."[105]

Are we then look for our reconstructor of the *Suśrta-saṃhitā* in this Nāgārjuna, who, on al-Bīrūnī's authority, is to be placed roughly in the tenth century ? There are many difficulties in doing this. The *Suśruta-saṃhitā* contains only four brief chapters on *rasāyana*,[106] the discussion of which in the *Caraka-saṃhitā* is far more extensive. In any case, it cannot be described by a scientist like al-Bīrūnī as a book merely on *rasāyana*. Secondly, as Filliozat convincingly shows, our *Suśruta-saṃhitā* must have been in existence long before the tenth century. "Happily", says he, "we have elsewhere some indices of calculating the date when the text of the *Suśruta-saṃhitā* was finally fixed. The medical manuscript found by Bower in Central Asia, at Koutcha, and published by Hoernle, mentions Suśruta, as also Ātreya, Bhela and other authors. Hoernle has determined the date of this manuscript with a somewhat illusory precision, but which, from

102. S. K. De in HB i.119-20 ; Venkata Ramanan 336.
103. Sachau i.188. 104. *Ib.* i.189ff. 105. *Ib.* i.189.
106. *Suśruta-saṃhitā* iv.27-30.

the point of view of palaeography, belongs to the period of the IV to VI-th centuries...Elsewhere, the texts attributed to Vāgbhaṭa, the *Aṣṭāṅga-saṃgraha* and the *Aṣṭāṅga-hṛdaya-saṃhitā* follow and eventually reproduce the *Suśruta-saṃhitā* as it has reached us....The *Aṣṭāṅga-hṛdaya* is quoted in the *Kitab-al-Fihrist* in Arabic, in 988....One can, therefore, admit that in VII-th century at the latest, the *Suśruta-saṃhitā* had been fixed in its present form, having already been re-adapted by the 'reconstructor'."[107]

It is thus difficult to accept that the specialist in *rasāyana* whom al-Bīrūnī mentions as Nāgārjuna is the reconstructor of our *Suśruta-saṃhitā*. Who then is this reconstructor ? At the present stage of research it seems impossible to answer the question with certainty. This does not mean that the commentator Ḍalhaṇa simply fabricates the story of such a reconstructor. The strong presumption on the contrary is that the contents of the *Suśruta-saṃhitā*, showing the rather free tendency of grafting all sorts of religious and metaphysical ideas on medicine and surgery, indicate that this compilation has a history of formation somewhat similar to the *Caraka-saṃhitā*. In other words, the present form of the *Suśruta-saṃhitā* unmistakably suggests that this medical compilation too is variously altered by one or more editors, who want to give it a religious stamp to make it acceptable to orthodoxy. One of these editors may have the name Nāgārjuna. But we do not know who this Nāgārjuna is. In view of the strong Buddhist association of this name, if we are obliged to believe that this editor is a Buddhist by creed, it seems necessary to postulate also some other editor of the compilation who adds to it the final Brahmanical bias palpably superimposed on medical science in our extant *Suśruta-saṃhitā*.

Since however we have no positive information about the editor or editors of the extant *Suśruta-saṃhitā*, any view about the time when the compilation assumes its present form is bound to be more or less conjectural. The more important point for our understanding of the history of Indian science seems to be

107. Filliozat 13-14.

the possible age of the formation of the medical views it contains. But we need not raise this question separately, because the doctrinal content of the *Suśruta-saṃhitā* is on the whole the same as that of the *Caraka-saṃhitā*. Discarding therefore the tendency to any absolute dating of either of the two compilations, we shall later try to discuss the more basic question concerning the formation of the medical doctrines contained in both.

BOOK I

SCIENCE AND COUNTER-IDEOLOGY

CHAPTER I

SCIENCE

1. PRELIMINARY REMARKS

The main question raised and sought to be answered in ancient Indian medicine retains profound significance even for our times. It is the question concerning the interaction between environmental matter and body-matter—between matter in its state of various things of nature and matter that assumes the form of the living bodies, specially human bodies.

Such a question was evidently suggested by an enormous amount of empirical data—mainly of the nature of the effects on human bodies of various things consumed as food and drink—compiled by generations of observers over a vast tract highly rich in flora, fauna and even certain rare minerals.[1] Their tools of observation were inevitably rudimentary—nothing more than the unaided sense-organs, sharpened by intellectual discipline to a certain extent though these might have been. There was moreover no possibility then of having controlled conditions to ensure the accuracy of observation. What was nevertheless remarkable about the ancient doctors was the methodology and conceptual tools they evolved for processing their data. These led them to interpret the simple facts of eating and drinking as a grand theoretical generalisation of the interaction between natural matter and body-matter.

As physicians, they were naturally interested above all in the problem of man. But they viewed everything about man—his health and disease, his growth and decay, and in fact the

1. E.g. *śilājatu* or exudate fron ores with different mineral contents: *Caraka-Saṃhitā* i.21.14; vi.1C.58. (*raupya-śilājatu* & *tāmra-śilājatu*); vi.1C.64; vi.12.49; vi.15.13; vi.16.78; vi.21 24; vi.21.130.

very phenomenon ordinarily called "life" or *prāṇa*—in terms of matter, the Indian word for which is *bhūta*, usually conceived by the physicians as existing in five forms *(pañca-bhūta)*. If they tried to make their view more detailed than was permissible on the basis of the technological and other equipments then available, it is for us only an evidence of how positive science is sometimes wrongly lured by the fascination for premature theoretical completeness. But the main aim of their theoretical drive is not to be overlooked, nor its historical significance undervalued. Practically everything considered worthwhile for their science was understood by them in terms of matter and its transformation. Outside the discussion of this, nothing was relevant for medicine.

This placed the ancient doctors among the pioneers of the materialist outlook in Indian history. They are of course yet unaware of the unlimited possibilities of the expansion of the knowledge of matter and of the laws of its transformation, which they are only beginning to understand. But all this only means that they are ancient scientists after all, and are not required to prophesy the future development of science. The limitation of these pioneers of science are not to be emphasised to the extent of overlooklng what nevertheless is positively achieved by them. They reach the firm conviction, for example, that this matter of which everything is made is knowable, and that there is nothing mysterious or supernatural about the laws of its transformation. These laws are essentially the laws of nature, the knowledge of which—the ancient doctors argue in their own way—extends human power over nature, which, from the medical point of view, means ensuring long and healthy life.

Judged by what is positively achieved in ancient Indian medicine, it has great importance not only for the history of science in its narrow sense but also for the broader context of the history of ideas. There is indeed a magnificient beginning in ancient India of science consciousness, with the materialist outlook forming its theoretical basis. What eventually stifles all this is thus a very serious question of ancient Indian

history. Before passing on to it, let us have some idea of the beginning itself.

2. MAN OR PURUṢA

The metaphysicians speculating on the spiritual essence of man are mainly interested in the mystery of the soul. One of the terms persistently used in Indian philosophical literature to refer to this is *puruṣa.* The metaphysicians of the Upaniṣadas propose to identify this soul or *puruṣa* with the ultimate reality. which they call *brahman.* As it is put in the *Bṛhadāraṇyaka Upaniṣad,* "This shining immortal *puruṣa* who is in this earth, and, with reference to oneself, this shining immortal *puruṣa* who is in the body—he indeed is just this Soul *(ātman),* this Immortal, this Brahman, this all."[2] The law-givers add that this philosophy of the spirit or soul is the only pious philosophy, in which therefore people must have implicit faith.[3]

The physicians retain the term *puruṣa,* but they scrap its spiritual connotation. Notwithstanding the metaphysicians, the physicians' interest in *puruṣa* is an all-absorbing interest in his physical constitution or the body. As the *Caraka-saṃhitā* formulates, "Everything about *puruṣa* or man is established in the body" : *śarīra-mūlaḥ ca puruṣaḥ bhavati.*[4]

The *Suśruta-saṃhitā* seems to be more specific in asserting that this *puruṣa* in which the physicians are interested is viewed as something essentially material. Defining certain basic medical terminologies, it says :

"Among these, the term *puruṣa* should be taken to mean those substances from which *puruṣa* originates, i.e, matter in its different forms ; it should be taken also to mean the various parts or limbs of *puruṣa,* and moreover the skin, flesh, bone, vein, nerve,

2. *Bṛ. Up.* ii.5.1. 3. E.g. Manu vi.29 ; 49 ; 82-4 ; xii.83;85;91-3 ; 118-25.
4. *Caraka-saṃhitā* ii 6.6.

etc." : *tatra puruṣa-grahaṇāt tat-sambhava-dravya-samūhaḥ bhūtādiḥ uktaḥ ; tat-aṅga-pratyaṅga-vikalpāḥ ca tvak-māṃsa-asthi-śirā-snāyu-prabhṛtayaḥ.*[5]

Such a view of *puruṣa* or man, identifying him with the body made of matter alone, appears to be precariously near the well-known view of the outspoken materialists, the Lokāyatas or Cārvākas, who are heavily censored as heretics by the law-givers and others. Could it then be that the ancient doctors feel the need of some subterfuge to evade this censorship, i. e. the need of toning down its open commitment to the materialist outlook ? In any case, we come across something peculiar in the extant *Suśruta-saṃhitā.* The same opening chapter of the text from which its view of *puruṣa* is just quoted, gives us another definition of it, which somehow or other wants to accommodate the concept of the indwelling spirit or soul in the body. This other definition of *puruṣa,* which occurs earlier in the chapter, reads : "In this discipline (viz. Āyurveda), *puruṣa* or man means the transformation of matter in its five forms as combined with 'the embodied' (*śarīrin,* i.e. the soul). All medical acts (such as, surgical operation, administration of drugs, application of alkaline substances and cauterisation) are restricted to the *puruṣa* alone" : *asmin śāstre pañca-mahābhūta-śarīri-samavāyaḥ puruṣaḥ iti ucyate ; tasmin kriyā, saḥ adhiṣṭhānam.*[6]

There is something obviously peculiar about this modified definition of *puruṣa,* in which is added "the embodied" or soul *(śarīrin)* to the physical entity made of matter in five forms, specially because the medical interest apparently taken in it is plainly fictitious. Medical acts, by which our text strictly means surgical operation, administration of drugs, cauterisation etc., are restricted to the *puruṣa* exclusively in the sense of the body ; these can have absolutely nothing to do with the embodied soul. In short, the purpose of adding the concept of soul to the view of *puruṣa*—or of just loosely inserting the word *śarīrin* into this definition—can at best have an extra-medicinal significance.

Interestingly enough, the same *Suśruta-saṃhitā* elsewhere

5. *Suśruta-saṃhitā* i 1.47. KSS-ed. 6. *Ib.* i.1.30.

apparently forgets the need of such an extra-medical graft on medical view and returns to its basically materialist understanding of man or *puruṣa.* Thus it declares :
"Knowing man or *puruṣa* as the product of *rasa,* one must be specially careful about the preservation of *rasa*" : *rasajaṃ puruṣaṃ vidyāt rasaṃ rakṣet prayatnataḥ.*[7]

What, then, is meant by *rasa,* of which man or *puruṣa* is supposed to be made ? It is one of the basic concepts of ancient Indian medicine and, in this context of the constitution of the human body, it is variously translated by the modern scholars as "chyle", "lymph chyle", fluid of life" and "organic sap". Of these we provisionally accept the last expression, because it comes very near to the idea sought to be conveyed by the ancient physicians when they speak of *rasa* as the basic substance of the organism. But the more important point to be noted is that this view of man made of *rasa* brings us back to the same materialist understanding of *puruṣa* in Āyurveda, for *rasa* itself is viewed as the product of matter in five forms *(pañca-bhūta).* Here is how the *Suśruta-saṃhitā* explains the origin of *rasa* :
"Food, which is made of matter in five forms, when fully transformed into its subtlest essence by the agency of fire is called *rasa*" : *tatra pāñcabhautikasya...āhārasya samyak-pariṇatasya yaḥ tejobhutaḥ sāraḥ parama sūkṣmaḥ sa rasa iti ucyate.*[8]

It is called *rasa,* says the text, because the word is derived from the root *ras,* "to move", and the substance thus named is ceaselessly circulating throughout the organism.[9] From this *rasa* are successively formed all the main constituents of the body—blood *(rakta),* flesh *(māṃsa),* fat *(medas),* bone *(asthi),* marrow *(majjā)* and semen *(śukra).*[10]

3. MAN AND NATURE

We shall later return to this theory of body formation in

7. *Ib.* i.14.12. 8. *Ib.* i.14.1.
9. *Ib.* i.14.13. 10. *Ib.* Cf *Caraka-saṃhitā* vi.15.17.

more detail. For the present, what concerns us is another point. This view of man being made of *rasa* and of *rasa* being the product of matter in five forms, leads the physicians to a general world-outlook in which man and nature are intimately interrelated, because everything in nature too is made of the same stuff, namely matter in its five forms. The unity of man and nature thus becomes a fundamental postulate of ancient Indian medicine. The way in which the physicians try to express this is of cosiderable theoretical significance. The body is viewed by them not merely as a part of nature but moreover—made as it is of the same stuff that goes to the making of everything else in nature—is considered an "epitome of nature", a "microcosm". As the *Caraka-saṃhitā* puts it,

"This *puruṣa* is an epitome of nature" : *evam ayaṃ lokasammitaḥ puruṣaḥ.*[11]

What is specially emphasised about this relation between man and nature is that without the knowledge of nature, the knowledge of man remains incomplete. The knowledge of man presupposes the knowledge of nature as a whole.

This cannot but be reminiscent of the view which, in the *Phaedrus*, Plato attributes to ancient Greek medicine, or more specifically to its spokesman, Hippocrates. As Plato puts the view :

"—Do you think it possible, then, satisfactorily to comprehend the nature of soul apart from the nature of the universe ?
—Nay, if we are to believe Hippocrates, of the Asclepiad family, we cannot learn even about the body unless we follow this method of procedure."[12]

In spite of such a lucid statement, it proves a formidable difficulty for later authorities on ancient Greek medicine to trace the view in any of the treatises that survive for us in the Hippocratic corpus. "The *Phaedrus* passage indeed", says W. H. S. Jones, "has been recognised by Littre as a reference to *Ancient Medicine*, but Galen is positive that it refers to *Nature of Man.*"[13]

11. *Caraka-saṃhitā* iv.4.13. Cf. iv.5.3.
12. Plato *Phaedrus* 270.
13. Jones i. intro. p. xliv.

When great authorities contradict each other so flagrantly, the question remains open to enquiry. But the enquiry proves disappointing. Neither the *Ancient Medicine* nor the *Nature of Man* shows the view Plato attributes to ancient Greek medicine.[14] Besides, what survives for us as the medical literature of ancient Greece or the Hippocratic collection so-called, exhibits "the sharpest possible contradictions in doctrines."[15] It gives us the impression of philosophical debates on various topics rather than an agreed body of general principles required for medical practice. As we shall later see, it is difficult—if not impossible—for us today to be exact about the basic theoretical position of ancient Greek medicine and as such the place of the view of man and nature in it is at best conjectural.

Notwithstanding Plato therefore there is no sure ground for us today to think that the fundamental unity of nature and man is crucial for ancient Greek medicine. But it is crucial for the theory and practice of Āyurveda. A number of propositions considered essential by the ancient Indian doctors follow directly from it. It appears, however, that the view is not abruptly invented by the doctors. It was taking shape from a dim antiquity as part of some cosmogonic speculation, through which the ancients tried to express their accumulated experience and wisdom. What the physicians do is to revolutionise the content and form of this speculation so fundamentally that it no longer remains part of primitive cosmogony but becomes an essential theoretical prerequisite for medical science, To see the role of the doctors in the making of this view, we have to digress a little into its prehistory, which seems to have an interest of its own.

4. PREHISTORY OF THE VIEW OF MAN AND NATURE

One source of the suggestion of the basic unity of man and

14. *Ib.* intro p. xxxiv-xxxv. 15. *Ib.* i. intro. p. xxviii.

and nature, as Filliozat shows, is traceable as far back as the Indo-Iranian period. Reviewing the pre-Aryan and Indo-Aryan data on medicine, he concludes, "In the Indo-Iranian period there does not seem to have existed any medical system which the Vedic Aryans could have brought with them into India. On the other hand, right from the Indo-Iranian period, several general notions concerning the cosmic role of the natural elements, such as the waters, the fire, the wind, had come into being. At the same time an idea of the correspondence between these elements and the constituent principles of the body had been developed and this must have prepared the latter-day development of the two parallel physiologies and cosmologies."[16]

This suggestion takes a clearer form in the first grouping for the conception of regular order in general—in the Vedic *ṛta*, corresponding to Avestan *asa* and the Old-Persian *ṛta*— i. e. a conception which also goes back to the Indo-Iranian period. As Filliozat, referring to the *ṛta*, continues :

"Among the peoples inclined to explain the organism by the cosmos and the cosmos by the organism, this notion must have quickly extended itself from the sky to the earth, from the world to the living beings. Although victim of innumerable accidents, the existence of this last one could not be conceived as being outside the orbit of the great cosmic law, as the same body was a little cosmos. If this is not properly speaking, a scientific concept of natural law, it is at least an idea quite near the same."[17]

What Filliozat does not note—perhaps because of his basic preoccupation with the idea of the Vedic heritage of Āyurveda—is the eventual fate of the conception of *ṛta* in the later Vedic tradition itself. This ancient concept magnificently foreshadowing the view of the laws of nature instinctively as it were, did not fulfil the promise inherent in it. Instead of developing into the view of the laws of nature in the later scientific sense, the Vedic *ṛta* meets an abrupt end in the Vedic tradition. In the imagination of the ancient Vedic poets, *ṛta* represented the most comprehensive view of law—so comprehensive indeed

16. Filliozat 79. 17. *Ib.* 91.

as trying to embrace into an ordered whole all phenomena of nature inclusive of society. The sense of such a law, regulating the natural order as much as the social order, is apparently disturbed with the disturbance of the latter. Thus we find Kutsa, a comparatively later poet of the *Ṛgveda*, complaining of the loss of *ṛta* in connection with the miserable condition into which he is thrown :

"I ask of thee, the ancient one,...where is the *ṛta* of the past gone *(kva ṛtaṃ pūrvyaṃ gatam)* ? Who is the new one who holds it ?... Oh gods of the three spheres, where is the *ṛta* of yours gone ? Whence again is this absence of *ṛta* (*anṛta*) ?...Where, oh gods, is the holdings of *ṛta* ? Where is the watchfulness of Varuṇa (the original custodian of *ṛta*) ? Where again is the path—the magnificent ways—of Aryaman ? And hence we are fallen in misery... We ask of Varuṇa, the knower of the path and the maker of food, and I utter this from my heart : Let the *ṛta* be born anew (*navyaḥ jāyatām ṛtam*)."[18]

But the poet's wish remains unfulfilled and there is no revival of the *ṛta* in the Vedic world-view. In later Vedic literature—the *Yajurveda*, *Brāhmaṇa-s* and Upaniṣads—what survives of the *ṛta* is at best its dead relic. The ancient realisation of the unity of man and nature and of everything being governed by the same immutable laws—the view of which we have glimpse in the uninhibited primitive poetry of the *Ṛgveda*—gives place to deliberate obscurantism of the *Yajurveda* and it is finally swept away by the world-denying speculations of the Upaniṣads, which gives to the Vedic thought a new direction altogether.[19] The philosopher's consciousness is coerced to a peculiar process of introversion, in which the only interest in *puruṣa* or man assumes the form of the interest in his spiritual essence or *ātman*, viewing the body at best as an unfortunate temporary abode of this soul. In short, in the general theoretical atmosphere created in the later Vedic tradition, there is no real interest either in nature or in man, and hence no longer any urge to develop the view of the laws unifying both.

18. *Ṛv* i.105.4-6 & 15.

19. Chattopadhyaya WLWD 109-156.

But this does not mean that the grand principle of the unity of man and nature becomes extinct in Indian thought. Though condemned to emaciation and final extinction in the officially boosted world-outlook of the later Vedic period, it survives in what is usually called Tāntrism—a trend of theory and practice that constitutes some kind of an ideological underworld from a very remote antiquity.[20] To this were affiliated many popular cults, inclusive of some still surviving in the country. Referring to one of these, called the Sahajiās, S. B. Dasgupta observes,

"Along with the uncompromising spirit of revolt against all formalities and orthodoxy of religion, great emphasis is laid in the Sahajiā literature on the human body, which is conceived as a microcosm of the universe. This feature...predominates in all the Tantras in general, wherever the *Yogic element* prevails ; but as the Sahajiās laid the whole stress on the Yogic element, this theory of the body being the epitome of the whole universe is most emphasised.'"[21]

Emphasis is added to the expression "Yogic element" in the quotation above, because in this we can see the real weakness of the view of the unity of man and nature as surviving in the Tantras. It is this that leads the Tāntrikas to the belief that by controlling the inner mechanism of the human body, it is possible to bring the course of the entire universe under control. In spite of this fantasy, however, there survives in the Tantras the sound principle of the unity of man and nature along with the zeal of understanding man in terms of the body and the body alone. Here is how another eminent authority on Tāntrism puts its viewpoint :

"Whatever exists in the universe exists also in the human body : *brahmāṇḍe ye guṇāḥ santi te tiṣṭhanti kalevare.* The human body is only a microcosm of the universe. This view is shared by all Tantras. The wisdom of Tāntrism is explained by all on the basis of this view... There are thus two aspects of

20. Chattopadhyaya L 269ff. *Mait. Up.* vii.8ff seems to give us the first glimpse of this ideological underworld. 21. S. B. Dasgupta ORC 103.

Tāntrika theory and practices. One of this is the external aspect and is concerned with the universe. The other is the internal aspect and is concerned with the human body. There are two ways in which the Tāntrika practices lead to success. One of these is concerned with internal nature, i.e. of nature as human body. You can attain success by developing the forces latent in you. Alternatively, you can move towards the expression of your internal forces by controlling external or natural forces. ···According to the Tantras, since the universe and the human body are made according to the same principles and of the same materials, and since the same forces operate in the same manner in both, by developing the forces inherent in the body you can have the forces of the universe in your favour and under your control...The relationship between the forces lying dormant in nature and in human body is indeed astonishing. The practices on the strength of which this intimate relationship is known, established and brought under control, constitute the Tantra-*sādhanā* or Tantra-practices. Its basis is *deha-tattva*—the cult of the body. That is why Tantra is all along so deeply concerned with the question concerning the body."[22]

5. MAN AND NATURE : PHYSICIANS' VIEW

Such then is the form in which the view of the basic unity of nature and man comes down to the physicians. It is a form in which the promise of science remains enmeshed in fantasy. But it is important that the view survives even with this limitation. When the officially boosted idealist philosophy of the Upaniṣads develops strong contempt for the body in order to glorify the soul—when this philosophy wants to undermine the reality of the material world or nature to make room for the exclusive reality of the spirit—the Tāntrikas keep alive a di-

22. P. Bandopadhyaya *Racanāvalī* (Bengali) ii.284-5. Free tr.

rect interest in the body and in the material world, viewing both as intimately interrelated. This is an essential precondition for medical science, not only because the physicians, as physicians, are concerned with the body but moreover because they find it impossible to conceive the body without its relation to the rest of the material world. Hence the presumption is that Āyurveda remains indebted to the cult of the body or *deha-tattva* of the Tāntrikas.

Admitting this, however, it will be an error to overlook the profound transformation effected by the physicians in the view of man and nature retained in Tāntrism. Discarding the fantasy of controlling the entire course of nature by yogic practices intended to control the inner mechanism of the body, the physicians take the step of insisting on the importance of the knowledge of nature or the material world as an essential precondition for the right understanding—and therefore also for better mastering—of the mechanism of the human body. From the medical viewpoint, this understanding is useless unless it is established on a fully rational basis. Therefore, scrapping the Tāntrika terminologies of certain quasi-mystical forces supposed to be operating both in man and nature, the physicians propose to explain both in terms of the same categories of concretely real things. Lest its formulation of man being the epitome of the world should remain vague or misunderstood, the *Caraka-saṃhitā* immediately amplifies its point :

"Whatever concretely exists in the world, exists also in man *(puruṣa)* ; whatever concretely exists in man, exists also in nature. Such is the way in which intelligent persons want to view both" : *yāvantaḥ hi loke mūrtimantaḥ bhāva-viśeṣāḥ tāvantaḥ puruṣe* ; *yāvantaḥ puruṣe tāvantaḥ loke iti* ; *budhāḥ tu evaṃ dṛṣṭim icchanti.*[23]

But what exactly are the physicians driving at ? What, according to them, concretely exists both in man and nature, making the former an epitome of the latter ? The context in which the formulation occurs in the *Caraka-saṃhitā* leaves us with no uncertainty about the answer. What the physicians are

23. *Caraka-saṃhitā* iv.4.13.

talking of is only matter and its transformation. The formulation, it needs to be noted, occurs immediately after discussing how natural matter in its five forms contributes to the formation of everything in the human body, beginning from its foetal stage. As the text, referring to the foetus formation, says :
"In it (the foetus), even what is derived from the mother etc. is after all nothing but the transformation of matter" : *mātṛjādayaḥ api asya mahābhūta-vikārāḥ eva.*[24]

Obviously enough, such a formulation is as important from the viewpoint of modern science as it is difficult for ancient science to work out. It needs a great deal of knowledge of matter and of the laws of its transformation to work out the proposition. The ancient scientists, who are just beginning to grope for the knowledge of matter, are not expected to give us any account of the body-formation from natural matter more satisfactorily than it is historically possible for them. Historically speaking, however, no less important is the point that some people somewhere must make a beginning of this understanding and thereby create the possibility for further research in the same direction. In ancient India at any rate the doctors appear to take this first bold step. The way in which they try to view everything in the body as made of natural matter is somewhat complex. Pending a fuller discussion of the view, we quote here only the summary of it as occurring in the present context of the *Caraka-saṃhitā* :
"In it (i. e. in the foetus), sound, auditory sense, lightness, fineness and cavity are but transformations of matter in its *ākāśa*-form ; tangibility, cutaneous sense, roughness, holding together of the body-elements and movements located within the body are but transformations of matter in its air-form ; colour, visual sense, brightness, digestion and heat are but transformations of matter in its fire-form ; taste, gustatory sense, coldness, softness, unctuousness and wetness are but transformations of matter in its water-form ; odour, olfactory sense, weight, stability and hardness are but transformations of matter in its earth-form."[25]

24. *Ib.* iv.4.12. 25. *Ib.*

This, as we shall see, is in need of much explanation. But it represents the main point of the theoretical drive of the ancient Indian physicians. What they are trying to work out is thus not difficult to see. The fundamental unity of man and nature—that which makes man a microcosm of the world—is due to the fact that the human body is nothing but a special organisation of matter, that natural matter in its five forms is transformed into the human body, that the human body is made of the same stuff of which everything else in nature is made. Thus, in short, that which enables the physicians to infuse a new content altogether into the ancient view of the unity of man and nature is their conscious effort to establish it on the general materialist view—on a theory of matter and of its transformation.

6. INTERCONNECTIONS IN NATURE

Before proceeding further, we have to note the immediate implication of the physician's view of the unity of man and nature. Put in modern terminology, it means that physiology is inseparable from other branches of natural science like physics and chemitsry, botany and zoology, mineralogy and climatology, and so on. If man and nature are basically the same, the knowledge of nature in every form must have its bearing on the full understanding of man. For the ancient physicians, however, these various disciplines are yet to branch out as forms of specialised natural sciences. They have therefore to grope for expressions to convey the idea of the grand principle of interconnection in nature, which makes the study of one of its facades unrelated to the whole as something necessarily incomplete. Yet the expressions they actually use are not without interest for us. Referring to matter in its five forms, the *Suśruta-saṃhitā* says,
"(Five forms of matter) exist in everything in the world, because of their mutual interrelation, because of their mutual interdependence and because of their mutual interpenetration" :

paraspara-saṃsargāt, paraspara-anugrahaṇāt, paraspara-anupreveśāt ca sarveṣu sarveṣāṃ sānnidhyam asti.[26]

This gives us some idea of of the grand view of interrelation and interpenetration of matter in all its forms on which ancient medicine depends. It follows for the physicians that though matter exists in five fundamental forms and though everything in nature is made of matter, there is hardly anything concretely existing in nature made exclusively or purely of one form of matter. Matter in all its five forms goes to the making of everything in nature.

What then do they mean when they speak of various things as "made of earth" (*pārthiva*), "made of the water" (*āpya*), etc. ? The *Suśruta-saṃhitā* answers that though everything concretely existing in nature is made of matter in all its five forms, because of the predominance of one matter-form in something it is called "made of earth" or "made of water", etc. : *utkarṣaḥ tu abhivyañjakaḥ bhavati, idaṃ pārthivam, idam āpyam, idaṃ taijasam, idam vāyavyam, idam ākāśīyam iti.*[27]

We shall presently see the special need felt by the physicians to take such a view. What interests us here is the practical proposition following from it. In view of the basic principle of interpenetration an interaction of matter in everything belonging to nature, nothing in nature can be irrelevant for medicine. The medical compilations want to put special emphasis on this point. As the *Caraka-saṃhitā* says,

"The entire world is the teacher of the intelligent physician, as it is the foe of the fool" : *kṛtsnaḥ hi lokaḥ buddhimatām ācāryaḥ ; śatruḥ ca a-buddhimatām.*[28]

The other way in which the same is sought to be coveyed in both the compilations is to claim that everything in nature must have some bearing or other on medical requirments. Here is one of the expressions used in the *Caraka-saṃhitā* for this fundamental assumption of Indian medicine :

"There is nothing in nature without relevance for medicine" : *na anauṣadhaṃ kiṃcit.*[29]

26. *Suśruta-saṃhitā* i.42.3. KSS-ed. 27. *Ib.* i.41.3. 28. *Caraka-saṃhitā* iii.8.14. 29. *Ib.* i.27.330.

If such brief formulations are not adequate to convey the profound thesis that without the integrated idea of all aspects of nature, the knowledge of man remains incomplete,—we must not overlook the important fact that the representatives of ancient Indian medicine work in their own way for the practical implementation of the idea. Historically speaking, they are the pioneers of a number of natural sciences in ancient India—of physics and chemistry, of botany and zoology, of mineralogy and climatology, etc. What is historically no less remarkable about them is that they do their best to integrate the knowledge of nature approached from different standpoints. For the sake of their science, the ancient doctors strive after the knowledge of nature as a whole.

That which makes it possible for them to strive after such knowledge is the fundamental theoretical conviction already mentioned. It is the conviction that the different facades of nature are interconnected, because everything in nature is made of the same stuff, namely *bhūta* or matter. This conviction is further strengthened by another—equally basic for Āyurveda—namely that everything in nature occurs according to certain immutable laws, the body of which is usually called *svabhāva* in Indian thought.

In the intellectual atomosphere created in the country by the persistent demand of the law-givers[30] for the outright rejection of materialism in favour of the idealist world-view, both the propositions of the physicians are sure to be censored as highly heretical. This explains why in the medical compilations in their extant forms we find the strange allegiance pledged to all sorts of alien thoughts also, the obvious purpose of which is to give these works an innocuous appearance in the eyes of orthodoxy. What needs to be specially noted, however, is that notwithstanding all the muddles created by these grafts on our texts, their basic commitments to the view of the *bhūta*-s and *svabhāva* could not be wiped out, because without these the theoretical fundamentals of Āyurveda are inconceivable.

30. Manu on heretics (understood mainly as materialists) iv.61; v.88-90; ix.225; xii.5; on their doctrines and books xi.66; xii.5. Details to be discussed later.

7. MATERIALIST WORLD-VIEW

Let us begin with one of the formulations just quoted: "There is nothing in nature which is without relevance for medicine".[31] The same formulation is repeated in the *Caraka-saṃhitā*: "No substance is found in the world which is without relevance for medicine": *na anauṣadhaṃ jagati kiṃcit dravyam upalabhyate.*[32] We read the same practically in the same words also in the *Suśruta-saṃhitā.* "There is no substance in the world which cannot be used for some medical purpose": *na anauṣadhībhūtaṃ jagati kiṃcit dravyam asti.*[33]

The repetitions are important. These show that the formulation is crucial for ancient Indian medicine. We shall later see how it gives us also a clue to the possible dating of the formation of the medical view. For the present, we shall try to discuss another question. How are the ancient physicians led to a tall generalisation like this?

The answer is obviously to be sought in the actual contexts in which these generalisations occur in the medical compilations.

One of the contexts in which it occurs in our *Caraka-saṃhitā* is the discussion of a somewhat staggering list of animate and inanimate substances and their products recommended for various medical purposes.[34] After giving the list, the text simply says that it is obviously impossible to discuss everything in the world from the viewpoint of their medical use. Since, however, there can be nothing in nature irrelevant for medicine, the things not covered by the present list are also to be judged by their qualities and according to the principles just discussed, also taking note of the local wisdom where such substances are found.[35]

The readiness to accept the wisdom of other peoples indicates no doubt the open mind of these ancient scientists. But the formulation in the form in which it is just quoted may

31. *Caraka-saṃhitā* i.27.330. 32. *Ib.* i.26.12. 33. *Suśruta-saṃhitā* i.48.8. KSS-ed. 34. *Caraka-saṃhitā* i.27.4-329. 35. *Ib.* i.27.229-30.

give us the impression of a hasty generalisation based primarily on pragmatic considerations. We do not see in this context the rationale for the formulation. This does not mean, however, that the rationale is not there in our text. It is not mentioned in the present context for the simple reason that it is already explained in the immediately preceding chapter of the *Caraka-saṃhitā* where the formulation first occurs.

What then is this explanation ?

The *Caraka-saṃhitā* does not mince words about the materialist commitment of Āyurveda when it first introduces the formulation. It occurs in the report on a medical colloquium held in the Caitraratha forest, which is attended by about a dozen medical authorities. The subject discussed is the nature and number of taste-qualities of various substances, which, as we shall see, has great importance in medical theory. Summing up the discussion, Ātreya, the spokesman of medical science, comes out with the following :

"In this discipline (i.e. medicine), everything is viewed as made of matter in five forms *(pañca-bhūta)*. These are either endowed with consciousness or are just unconscious. Their qualities are 'sound etc.' as well as 'heavy etc. ending with the liquid'. As already mentioned, their actions are five-fold, namely emesis etc." : *sarvaṃ dravyaṃ pāñcabhautikam asmin arthe ; tat cetanāvat, acetanaṃ ca ; tasya guṇāḥ śabdādayaḥ, gurvādayaḥ ca dravāntāḥ ; karma pañcavidham uktaṃ vamanādi.*[36]

The statement is categorical and it leaves us with nothing vague about the theoretical position of Āyurveda. Whatever else the metaphysicians may have to say, the physician in his special capacity cannot but be a materialist, because from the medical viewpoint there can be nothing which is not made of matter. Even substances endowed with consciousness are as much the products of matter as substances without consciousness.

It may be easy for us to call this materialism crude, naive and primitive. But that is not enough for the purpose of

36. *Ib.* i.26.10.

judging the theoretical position of the ancient physicians. The more important point is that the first decisive step taken by them towards positive science is characterised also by the awareness of the need for a materialist view of things. It is this that lays the foundation for patient researches of centuries to come, and hence is of abiding importance for science. Historically speaking, the detailed explanation of man and nature actually offered by the ancient physicians—the way in which they try to work out a comprehensive view of everything in terms of matter—cannot obviously be more satisfactory than their understanding of matter itself. Still, neither the historian of science nor the historian of philosophy can possibly ignore it, because that will be as much of an error as any tendency to overrate its importance.

In this explanation, the point that interests the physicians most is that of the transformation of natural matter into body-matter. It is on the basis of this that they want to establish their therapeutic generalisation that there is nothing in nature which is without relevance for medicine.

How then do they try to explain the making of man from the same matter that constitutes everything in nature ? To follow their view, it is necessary first to see what they mean by the 'qualities', because it is by these qualities that they try to identify the substances, or more specifically, the kind of matter of which the different substances are made.

In the cryptic formulation just quoted, the qualities are mentioned under two heads. These are :

a) 'Sound etc.' (*śabdādayaḥ*), and
b) 'heavy etc. ending with the liquid' (*gurvādayaḥ dravāntāḥ*).

The first of these two lists of qualities includes five.[37] These are—

1. sound *(śabda)*, supposed to be the special quality of matter in its *ākāśa*-form,
2. touch *(sparśa)*, supposed to be the special quality of matter in its air-form (*vāyu*),

37. *Ib.* i.26.10ff & iv.7.16ff.

3. colour (*rūpa*), supposed to be the special quality of matter in its fire-form (*tejas* or *agni*),
4. taste (*rasa*) supposed to be the special quality of matter in its water-form (*ap* or *jala*), and
5. smell (*gandha*), supposed to be the special quality of matter in its earth-form (*pṛthivī* or *kṣiti*).

The other list of qualities, viz. 'heavy etc. ending with the liquid', as enumerated in the *Caraka-saṃhitā*,[38] includes twenty. Though it is sometimes difficult to have their exact English equivalents, we can roughly render these as follows :

1. Heavy (*guru*)	11. Soft (*mṛdu*)
2. Light (*laghu*)	12. Hard (*kaṭhina*)
3. Cold (*śīta*)	13. Clear (*viśada*)
4. Hot (*uṣṇa*)	14. Slimy (*picchila*)
5. Unctuous (*snigdha*)	15. Smooth (*ślakṣṇa*)
6. Dry (*rukṣa*)	16. Rough (*khara*)
7. Slow (*manda*)	17. Subtle (*sūkṣma*)
8. Acute (*tīkṣṇa*)	18. Gross (*sthūla*)
9. Stable (*sthira*)	19. Dense (*sāndra*)
10. Mobile (*sara*)	20. Liquid (*drava*)

Let us now see how with this tow-fold list of qualities of susbtances, the ancient physicians proceed to explain both nature and man as made of matter in five forms and how from this explanation follows their cardinal formulation that there can be nothing in nature irrelevant for medicine.

In the *Caraka-saṃhitā*, Ātreya continues his concluding observations on the medical colloquium just mentioned[39] :

"Among the substances of the world, some are made (predominantly) of matter in its earth-form (*pārthiva*). To identify them by their qualities, these

a) abound in the quality of smell, and are peculiarly—

b) heavy, rough, hard, slow, stable, clear, dense and gross.

In the human body, these contribute to what is plump, compact, heavy and stable.

38. *Ib.* i.25.36. 39. *Ib.* i.26.10-2.

"Among the substances of the world, some are made (predominantly) of matter in its water-form (*āpya*). To identify them by their qualities, these

a) abound in the quality of taste, and are peculiarly—

b) liquid, unctuous, cold, slow, soft and slimy.

In the human body, these contribute to what is moist, unctuous, unifying, liquid, soft and pleasant.

"Among the substances of the world, some are made (predominantly) of matter in its fire-form (*āgneya*). To identify them by their qualities, these

a) abound in the quality of colour, and are peculiarly—

b) hot, acute, subtle, light, dry and clear.

In the human body, these contribute to what is burning, to the digestive process and to what has radiance, lustre and colour.

"Among the substances of the world, some are made (predominantly) of matter in its air-form (*vāyavya*). To identify them by their qualities, these

a) abound in the quality of touch, and are peculiarly—

b) light, cold, dry, rough, clear and subtle.

In the human body, these contribute to what is dry, pain-giving, mobile, clear and light.

"Among the substances of the world, some are made (predominantly) of matter in its *ākāśa*-form (*ākāśātmaka*). To identify them by their qualities, these

a) abound in the quality of sound, and are peculiarly—

b) soft, light, subtle and smooth.

In the human body, these contribute to what is soft, porous and light.

"In the light of this knowledge, no substance is found in the world which is without relevance for medicine, i.e. which, as rightly used, does not serve some specific medical purpose."

Before proceeding further, let us try to be clear about one point. This view of the transformation of natural matter into body-matter—from which follows the dictum that there cannot be anything in nature irrelevant for medical purpose—is absolutely crucial for Āyurveda. Hence it is found repeatedly emphasised in our medical compilations. If the view as just quoted

appears to be too general to be of use for the physician's purposes, elsewhere in the *Caraka*-saṃ*hitā* we come across it in a more specific form. It occurs in the context of anatomical discussions. The text mentions all parts of the body known directly by the sense-organs as well as by inference. It also attempts a quantitative assessment of the body-constituents like blood, faecal matter, mucus secretion, bile, urine, flesh marrow (*vasā*), fat, bone marrow, seminal fluid, etc.[40] In this connection, the physicians observe no doubt that all these body-constituents do not have the same characteristics. Hence is the question : How to account for their diversity ? For the physicians, there is only one answer to this. The diversity is to be explained by their origin, i.e. by an account of where these come from. Wherefrom then do these come ? These come only from various natural things. But all things of nature are made of matter in its five forms. All the body-constituents therefore have ultimately their source in natural matter existing in five forms. As the *Caraka-saṃhitā* puts it,

"Matter (predominantly) in its earth-form (*pārthiva*) goes to the making of everything in the body which is gross, firm, solid, heavy, rough and hard—as, for example, nails, bones, teeth, flesh, skin, faeces. hairs on the head and on face and other parts of the body, and the tendons. From this are also made odour and the olfactory sense.

"Matter (predominantly) in its water-form (*āpya*) goes to the making of everything in the body which is liquid, mobile, slow, unctuous, soft and viscid—as, for example, 'organic sap' (*rasa*), blood, fat, mucus, bile, urine, sweat, etc. From this are also made taste and the gustatory sense.

"Matter (predominantly) in its fire-from (*āgneya*) goes to the making of everything in the body that is of the nature of bile (*pitta*), heat and lustre. From this are also made colour and the visual sense.

"Matter (predominantly) in its air-form (*vāyavīya*) goes to the making of everything in the body that is of the nature of inhalation and exhalation, opening and closing of the eyes, contraction

40. *Ib.* iv.7.1-15.

and extension, movement, impelling, holding etc. From it are also made touch and the cutaneous sense.

"Matter (predominantly) in its *ākāśa*-form (*āntarīkṣa*) goes to the making of everything in the body that is of the nature of porosity and sound-producing, as well as the channels within the body, both gross and minute. From it are also made sound and the auditory sense."[41]

One point in this view needs to be specially noted, because it has far-reaching consequences for Indian philosophy. It is concerning the origin of the sense-organs. Starting from the assumption that only the like is apprehended by the like, the physicians think that a sense-organ must be made basically of the same matter-form, the specific quality of which it is capable of apprehending. Thus the specific quality of matter in earth-form is odour ; hence they think that not only everything in the body with the special quality of odour, but moreover the olfactory sense itself is made of matter in its earth-form. Similarly, from matter in its water-form originates the gustatory sense, because taste is supposed to be the special quality of water ; from matter in its fire-form originates the visual sense, because colour is supposed to be the special quality of fire ; and so on.

Besides all these, there is no doubt something ordinarily called the soul or the "mover" and which is supposed to be specially connected with the fact of consciousness (*buddhi* or understanding and *manas* or mind). How do the physicians account for it ? The full commitment to materialism demands that this too is to be explained by matter, as it was actually attempted by the plain-speaking materialists of ancient India, called the Lokāyatas or Cārvākas. In the medical compilations however we do not come across a very clear and consistent tendency to explain consciousness by matter. But the possibility of at least a section of the physicians subscribing to a materialist or near-materialist view of consciousness cannot be completely ruled out. We see elsewhere in the *Caraka-saṃhitā* the distinct theory differentiating between "a substance

41. *Ib.* iv.7.16

endowed with consciousness" and "a substance without consciousness" by the simple criterion of the presence or absence of the sense-organs in it. As the text says, "a substance is called conscious when it is endowed with the sense-organs; without the sense-organs a substance is unconscious": *sendriyaṃ cetanaṃ dravyam ; nirindriyam acetanam.*[42] Thus the mere presence of the sense-organs is supposed to endow a substance with consciousness. But, as we have just seen, in the medical view the sense-organs are only the products of matter. In other words, in the formulation just quoted, there is nothing but matter and its transformations to endow a substance with consciousness. Thus the tendency of a materialist understanding of consciousness cannot be ruled out.

But let us not impute to the physicians more of the materialist outlook than is obviously required for their main purpose, namely that of ensuring health or the cure of disease. As we have been discussing, from this viewpoint one of their basic propositions is : there can be nothing in nature irrelevant for medical purposes. The proposition occurs also in the *Suśruta-saṃhitā,* which, when properly analysed, leads us again to see the materialist commitment of the ancient doctors.

An entire chapter of the *Suśruta-saṃhitā*[43] is designed to establish the view that for medical purposes the substances *(dravya*-s*)* and their knowledge are most important. There was evidently much controversy among the ancient authorities on this point, for the text tries to establish this view after elaborately stating and refuting rival views attributing the same status to "taste-qualities" (*rasa*-s), "inherent potency" *(vīrya)* of substances by which these act on our bodies and the "process of transformation" *(vipāka)* of the substances consumed. Without undermining the importance of the knowledge of all these, the text claims that the knowledge of substances is most important, because it forms the basis of all other knowledge required for therapeutic purposes.

In the next chapter[44] the need is naturally felt for a more detailed explanation of what is meant by the substances. For

42. *Ib.* i.1.48. 43. *Suśruta-saṃhitā* i.40. KSS-ed. 44. *Ib.* i.41.

this purpose, the *Suśruta-saṃhitā* proceeds straightway to give the theory of matter on which the medical understanding is based. All substances of nature, the text repeats, are made of matter in all its five forms, though because of the predominance of one of these matter-forms in a substance it is called "made of earth" or "made of water", etc. Next is discussed the qualities by which to determine whether a substance is made predominantly of earth or water etc., and what these matter-forms, consumed as various substances, contribute to the making of the body—a view, though not the same in every detail as the one we have just quoted from the *Caraka-saṃhitā*, is substantially the same. What interests us most is that in the *Suśruta-saṃhitā*, as in the *Caraka-saṃhitā*, the view that there can be nothing irrelevant in nature for medical purposes follows directly and immediately from the discussion of all this. Since all substances in nature are made of the same matter that goes to the formation of the human body, there can be nothing irrelevant in nature for medical purposes. As the *Suśruta-saṃhitā* formulates :

"From what is just discussed (about the constitution of natural substances and the human body), we can easily understand that there is no substance in the world without relevance for medicine...

"The qualities discussed as belonging to the substances of the world, exist also in the human body. Therefore, the condition of the human body, its growth and decay, are all determined by the substances in nature".

anena nidarśanena na anauṣadhībhūtaṃ jagati kiṃcit dravyam asti...
guṇāḥ ye uktāḥ dravyeṣu śarīreṣu api te tathā /
sthāna-vṛddhi-kṣayāḥ tasmāt dehināṃ dravya-hetukāḥ // [45]

The formulation is cryptic, but the point emphasised is not difficult to see. If the body is made of matter alone, any disturbed condition of it (which is called sickness or disease) can only be viewed as due to some disturbance in this material constituent, i.e. as due to the excess or diminution in it of matter in

45. *Ib.* i.41.9-16. KSS-ed

some form or other. The remedy accordingly can only be matter-readjustment in the body, i.e. more simply either reduction or addition of matter in some form or other. Since everything else in nature is also made of the same matter, everything in nature is supposed to have some relevance for this matter-readjustment in some way or other, i.e. for some medical purpose or other. It is inconceivable that something in nature should be made of the same matter by which the body is made, and yet it can be absolutely irrelevant for the general purpose of matter-readjustment in the body. A thing may be inappropriate for the purpose of matter-readjustment in this or that specific form, but it cannot be inappropriate for the general purpose of matter-readjustment as such, i.e. for the general medical purpose.

We shall later see how the ancient physicians try to conceive this problem of matter-readjustment as constituting the essence of their therapeutic technique. For the present the question is : Can the physicians, with such a view of man and nature, at all operate without a materialist outlook ? The *Suśruta-saṃhitā* comes out with a clear answer in the negative. Reviewing the philosophical views of ancient India—specially Vedānta and Vedānta-oriented Sāṃkhya—it asserts that from the medical viewpoint only the materialist outlook has real relevance. Thus we are told :

"It is claimed that the knowledge of matter in its different forms is alone relevant for medicine, because in the therapeutic context it is impermissible to conceive of anything transcending matter."

tasya upayogaḥ abhihitaḥ cikitsāṃ prati sarvadā /
bhūtebhayḥ hi paraṃ yasmāt na asti cintā cikitsite // [46]

Let therefore the metaphysicians have their own view and let not the physicians dabble with these. What is imperative for the physicians, however, is that they must not think of anything except in terms of matter.

46. *Ib.* iii.1.17. KSS-ed.

8. TRANSFORMATION OF MATTER

If we are to trace the hard core of the medical tradition embodied in these compilations to some period earlier than the Buddha—which, as we shall see, certain important evidences want us to do—we cannot possibly ignore the contribution of our physicians to the general fund of Indian philosophical ideas. In this ancient period, which is roughly the formative period of Indian philosophy, they do the pioneering work of a bold world-outlook with a clear commitment to materialism. The point to be specially noted is that this materialism is not an avoidable hypothesis for them. It follows necessarily from the very commitment to their science. As physicians they cannot help being interested in the body, without the full knowledge of which their science is impossible. The *Caraka-saṃhitā* wants us to make no mistake about this :

"The physician has full knowledge of Āyurveda only when he understands the body in every way, in its entirety and in all its varied conditions. This Āyurveda ensures happiness for all."

śarīraṃ sarvathā sarvaṃ sarvadā veda yaḥ bhiṣak /
āyurvedaṃ saḥ kārtsnyena veda loka-sukhapradam //.[47]

Secondly, they cannot escape the fact observed again and again that this body depends on the things consumed as food and drink. As *Caraka-saṃhitā* adds,

"The body is verily the product of food" : *dehaḥ hi āhāra-sambhavaḥ.*[48]

Had the physicians left their understanding merely at this stage, their position would not have retained the theoretical interest that it has for us. It retains this interest because they wanted to take the further step of enquiring into the constitution of the things consumed and also into the nature of the transformation these undergo for becoming the body-constituents. This leads them to restate the simple fact of observation of food consumption in terms of the making of the body by natural matter. The *Caraka-saṃhitā* says,

47. *Caraka-saṃhitā* iv.6.19. 48. *Ib.* i.28.41.

"Body means the totality of the transformation of five forms of matter—a totality that becomes the substratum of consciousness" : *śarīraṃ nāma cetanā-adhiṣṭhāna-bhūtaṃ pañca-mahā-bhūta-vikāra-samudāyātmakam.*[49]

Or, as the *Suśruta-saṃhitā* very pointedly says,

"The body is made of matter in five forms. Food also is made of matter in five forms. When fully transformed, the properties of the five forms of matter in food go to add to their counterparts in the body."

pañcabhūtātmake dehe hi āhāraḥ pāñcabhautikaḥ /
vipākaḥ pañcadhā samyak guṇān svān abhivardhayet //[50]

Not that we expect the ancient scientists to understand and explain the nature of this transformation in greater detail than is historically possible for them. But whatever may be the destiny of their understanding of the problem judged by the standard of detailed knowledge gained by research many centuries after them, the historical importance of the fact that they formulate the problem of the transformation of natural matter into body-matter cannot be denied. The very formulation of the medical problem in this way implies the rejection of the supernatural from the medical standpoint. This is specially significant in the ancient Indian context, where the priest-class is determined on twisting every bit of empirical knowledge then gained to suit their general demand for mystification and obscurantism and where moreover the officially boosted law of *karma* demands that everything about man is to be understood in terms of the "unseen" (*adṛṣṭa*) hangover of actions performed by him in his past life. In opposition to all these, it could not have been easy for the physicians to strive after a plainly materialist understanding of nature and man.

But how exactly do the physicians propose to explain the transformation of natural matter into body-matter ?

To begin with, they have to depend for this purpose on the knowledge of the technology available for them. It is basically the technique of the use of fire, which they observe is required for the profound transformation of material substances—as for

49. *Ib.* iv.6.4. 50. *Suśruta-saṃhitā* i.46.533. KSS-ed.

example in the process of cooking the food or baking the earthen pot. Depending on this, they think that the transformation of the material things into body-constituents must be due to the agency of fire. Thus, the *Caraka-saṃhitā* asserts,
"Just as the fire below transforms the rice-grains and water in the pot into cooked food, so the fire within the stomach transforms the food consumed into the organic sap *(rasa)* and excretory matter *(mala)*."[51]

Thus is the obvious need of assuming some fire within the body, without which life is impossible. The *Caraka-saṃhitā* wants to put special emphasis on the agency of the fire within :
"The life-span, complexion, vitality, good health, enthusiasm, nutrition, glow, corporeal vigour, lustre, heat and life-breaths are all 'due to the fire in the body' *(deha-agni-hetuka)*.
"When this fire is extinguished, a man dies. So long as a man is endowed with it adequately, he lives long in good health. When it is deranged, he falls ill. Therefore everything is dependent on fire *(mūlam agniḥ tasmāt nirucyate)*."[52]

How to account then for the fire within the body ? The only theoretical equipment the physicians have to answer this question is their view of matter in five forms. Hence it is of considerable interest to see how they use it to account for 'fire within the body' and its crucial role in the transformation of environmental matter into body-matter.

As already seen, in the medical view everything in nature and man is made of matter in all its five forms, though in certain things matter in some form or other predominates. Thus, fire as one form of matter exists in all natural substances as well as in every body-constituent—may be in a predominant form or in some subsidiary form. It is this fire that effects the basic transformation of natural matter into body-constituents. The *Caraka-saṃhitā* asserts,
"The five fires in the body, namely those existing in the body-constituents made predominantly of earth, water, fire, air and *ākāśa*, cook respectively their corresponding matter-forms—viz. earth etc.—in the food consumed which is composed of the same

51. *Caraka-saṃhitā* vi.15.8. 52. *Ib.* vi.15.3-4. cf. vi.15.39-40.

matter-form. (That is, fire in the body-constituent made predominantly of earth-matter cooks earth-matter of the food, etc.) "Thus each matter-form of the substances consumed goes to increase its counterpart in the body. For example, (because of the action of fire) in the substances consumed, that, which is made predominantly of earth increases the body-constituent made predominantly of earth. Similarly, the remaining ones their counterparts in the body. Thus the body as a whole gets its nourishment."[53]

Thus equipped with the theory of fire "cooking" within the body the food-substances consumed, the physicians attempt a full explanation of the formation of all body-constituents from natural substances—an explanation on which is based the fundamentals of their therapeutic principles. Here is a rather simplified version of it from the *Caraka-saṃhitā* :

"(Thus cooked or transformed), food etc. are converted into two kinds of substances within the body. These are : 1) the desirable or nourishing ones *(prasāda)*, which is called *rasa* (or organic sap) and 2) the impure ones or waste products *(mala)*, which is called excrement or *kiṭṭa.*

"From the excrement *(kiṭṭa)* are formed the following : sweat, urine, faeces, *vāyu*, *pitta*, *kapha*, the dirty things excreted through the eyes, ear, nose, mouth, hair-follicles and genital organs (i.e. smegma etc.), as well as hairs on the head, the beard and hairs on other parts of the body, the nails, etc.

"From the foods transformed into the nourishing substance are formed all the desirable body-constituents like *rasa*, blood, flesh, fat, bone marrow, semen, as well as the five substances constituting the sense-organs, the body-joints, ligaments, mucus, etc.

"All these body-constituents formed from the nourishing ones and the impure ones maintain (normally) their mutual proportion, according to the age and size of the body.

"Thus the nourishing substances and the excrements, retaining their proper proportion, maintain the balance of the body-elements in their substratum, the normal body *(evaṃ rasa-malau*

53. *Ib.* vi.15.13.

sva-pramāṇa-avasthitau āśrayasya samadhātoḥ dhātu-sāmyam anuvartayataḥ).

"Because of the increase or decrease of nutritional body-constituents (i.e. body-constituents produced from *rasa*) resulting from (faulty) eating, there is a loss of the balance of the body-elements ; health or cure of such a condition is the restoration of the balance of this group of body-constituents (effected by counter-diet). So also is the case of the excreta, resulting from what is called impurities. When some of the waste-products in the body exceed their normal proportion and require to be depleted, these are found to return to their normal condition (i.e. desirable proportion) and the body-balance is restored by being treated with counter-diets, with opposing qualities, like cold and hot.

"Of these body-constituents called nutritional substances and excreta, the means of passage is provided by channels within the body. These channels feed the various body-elements in the requisite measure and with proportionate constituents.

"In this manner, the body is the result of nourishment ingested in the four-fold manner—eaten, drunk, licked and masticated. The distinction between health and disease in body is due to the difference between having wholesome and unwholesome diet."[54]

This, as we shall later see, is far too simple an understandig of health and disease to allow the physicians remaining fully statisfied. They have to modify the view to suit their theoretical purposes. One fatal result of this is the degeneration of the medical theory into the rigid formulas of *vāya*, *pitta* and *kapha*. But more of this later.

9. CONCEPT OF "LIFE"

To resume the main discussion : the ancient doctors are led to attach very great importance to the question of the interaction between natural matter and body-matter, because they start

54. *Ib.* i.28.4-5.

from a simple but inescapable fact of observation. The fact is that various natural substances consumed by us as food and drink determine the conditions called health and disease. The *Caraka-saṃhitā* wants to put special emphasis on this: "The only factor that promotes the growth of man (i.e. ensures his health is the consumption of wholesome food. The consumption of unwholesome food again is the cause of diseases": *hita-āhāra-upayogaḥ ekaḥ eva puruṣa-vṛddhikaraḥ bhavati; ahita-āhāra-upayogaḥ punaḥ vyādhi-nimittam iti.*[55]

The words *ekaḥ eva*—"the only one"—are evidently intended to add emphasis to the formulation. If the text has elsewhere to amend it by way of adding other factors like climatic conditions or environmental changes[56] and even occupotianal hazards[56] as also contributing to diseases, they never abandon the basic importance of food and drink from the medical viewpoint. They even go to the extent of conceiving the phenomenon called "life" or *prāṇa* as originating from food. Summing up a long discussion on food and drink, the *Caraka-saṃhitā* says,

"Life is just food transformed into life. All over the world, everybody strives after food. Complexion, physical grace, good voice, life, talent. happiness, contentment, growth, excellence of intelligence—all these are established on food."

prāṇaḥ prāṇabhūtam annaṃ lokaḥ abhidhāvati /
varṇaḥ prasādaḥ sausvaryaṃ jīvitaṃ pratibhā sukham //
tuṣṭiḥ puṣṭiḥ balaṃ medhā sarvam anne pratiṣṭhitam / [58]

Thus, not to speak of the physical characteristics like complexion, strength, etc., even those faculties or qualities that are ordinarily viewed as psychical—talent (*pratibhā*), excellence of intelligence (*medhā*). etc.—are all derived from food. More remarkable than all this, is what is said about 'life" or *prāṇa*, about the mystery of which there is already a great deal of speculation in the country among the Upaniṣadic philosophers.[59] The physicians appear to brush aside all these specu-

55. *Ib.* i.25.31. 56. *Ib.* i.28.7, e.g. 57. *Ib.* viii.11.28-30, e.g. 58. *Ib.* i.27.249-50. 59. See, e.g. *Bṛ. Up.* i.6.3; ii.1.20; iv.4.2; iv.4.7; *Ch. Up.* vii.15.1; viii.12.2; *Muṇḍ. Up.* iii.1.4; *Praśna Up.* ii.3; iii.3; iii.11; etc.

lations when they say, "life is nothing but food transformed into life"—*prāṇaḥ prāṇabhūtam annam.*

Lest there should remain anything vague about this view, the same chapter of our text opens with the statement :
"The specialists assert that the phenomenon called life of those things that are known as living beings—i.e. of all creatures—is made of food and drink with desirable colour, smell, taste and touch, consumed in the right manner. They assert this, because of the results being directly observed" : *iṣṭa-varṇa-gandha-rasa-sparśaṃ vidhi-vihitam anna-pānaṃ prāṇināṃ prāṇi-saṃjñakānāṃ prāṇam ācakṣate kuśalāḥ ; pratyakṣa-phala-darśanāt.*[60]

10. EMPIRICAL BASIS

In the passage just quoted, the expression *pratyakṣa-phala-darśanāt*—"because of the results being directly observed"—is in need of being specially noted. It gives us an idea of an outstanding feature of ancient Indian medicine, namely the great importance attached in it to the direct observation of facts. To put special emphasis on the empirical basis of medical science, the *Caraka-saṃhitā* declares : "Now, of all types of evidences, the most dependable ones are those that are directly observed by the eyes. Here are some of our views based on the observation of thousands of instances. Just as the life-span of those frequently engaged in war is different from those who keep away from it, so also is the life-span of those whose diseases are not readily attended to is different from those who go in for immediate medical aid. It is like the difference between those who take poison and those who avoid it, or that between a water-pot subjected to constant wear and tear and a vase carefully preserved. In short, longevity depends on care and regulation, the opposites of which expedite death.

60. *Caraka-saṃhitā* i.27.3.

"Moreover, we actually observe that certain principles are conducive to healthy life. Thus, when certain practices and food-habits are antagonistic to one's habitation and constitution, one must try to adjust oneself to these only gradually. One must fully reject those substances that over-add or diminish or wrongly add to the body-constituents. One must control every tendency to excess, one must not suppress any excretory urge and one must avoid all rash actions.

"All this is what we prescribe, because all these are based on what we directly observe (*samyak upadiśāmaḥ ; samyak paśyāmaḥ ca iti.*)"[61].

Thus the doctors are defending here certain principles which they consider to be conducive to health and long life. What they want to emphasise at the same time is that there is nothing arbitrary or *a priori* about these principles. Their validity is guaranteed by empirical data or by what they actually observe. As is only to be expected, in defence of the intrinsic efficacy of their science, the final consideration they put forward is : "All this is directly observed by us" : *idaṃ ca naḥ pratyakṣam.*[62]

The great importance attached to empirical evidence in Āyurveda presumably brings it in direct confrontation with the tendency to ennoble the free flights of pure reason, which already in the Upaniṣadic age, receives a great deal of financial and political support.[63]

How the general theoretical temper favoured by the kings and nobles of the Upaniṣads announces its open hostility to empirical knowledge is well-known. We quote here only a brief description of it given by Hiriyanna :

"The usual Upaniṣadic expression for the things of experience, we know, is *nāma-rūpa* (lit. 'name and form') ... The mind and the organs of sense function only within the realm of names and forms. That is, empirical knowledge is inevitably of the finite. But this does not mean that Brahman, the infinite, is unknowable. The very purpose of the Upaniṣads is to make it known.

61. *Ib.* iii.3.36. Free tr. 62. *Ib.* i.10.6. 63. Chattopadhyaya WLWD 124ff.

So Brahman also is knowable ; only its knowledge is of a higher type than empirical knowledge. *Muṇḍaka Upaniṣad* (i. 1. 4-5) classifies all knowledge into two—the higher *(parā vidyā)* and the lower *(aparā vidyā)*, which are respectively the knowledge of Brahman and of empirical things...This view denies the name of *vidyā* to empirical knowledge, which, from the ultimate standpoint, is not knowledge at all, but only a sort of ignorance or *avidyā*."[64]

It is thus not difficult to understand why the entire Upaniṣadic literature should be silent about medical science. From the viewpoint of the lofty speculations of the dominant philosophers of the age, what the doctors are busy with is only a contemptible form of knowledge, because it is ultimately guaranteed by sense-experience. But our present question is : How do the doctors possibly react to this dominant trend in ancient Indian philosophy ? The general tendency to denounce and deprecate empirical knowledge in the officially boosted theoretical temper of the ancient period encourages the free flights of pure reason and to subordinate to it all proofs or evidences. Presumably, such a tendency annoys the physicians and we find the *Suśruta-saṃhitā* coming out sharply against it. It warns the physicians against the empty fascination for pure reason :

"A learned physician must never try to examine on grounds of pure logic the efficacy of a medicine, which is known by direct observation as having by nature a specific medical action. Thus, for example, even a thousand logical grounds will never make the Ambaṣṭha group of drugs have a purgative function."

pratyakṣa-lakṣaṇa-phalāḥ prasiddhāḥ ca svabhāvataḥ/
na oṣadhīḥ hetubhiḥ vidvān parīkṣeta kathañcana //
sahasreṇa api hetūnāṃ na ambaṣṭhādiḥ virecayet ///[65]

Here, therefore, we have a clear example of the protest against pure reason and this in defence of empirical knowledge. The group of herbs referred to as belonging to the Ambaṣṭhādigaṇa are actually observed by the doctors to cure cases of dysen-

64. Hiriyanna 69-70.

65. *Suśruta-saṃhitā* i.40.12-3. KSS-ed.

try with excessive mucus in stool[66] and hence they have absolutely no patience for any logical analysis intended to prove it as having an opposite action. We shall later see how, while trying to graft the alien idea of the soul and its transmigration on the medical compilation, the later reconstructors of our *Caraka-saṃhitā* feel also the need of arguing against this importance of empirical evidence itself !

But this emphasis of the importance on empirical data in Āyurveda must not be misunderstood. It means no doubt that according to the ancient doctors, their science is impossible without depending on empirical data or that the stock of empirical data ultimately differentiates science from the empty postulates of pure reason. But does it also mean that the anceint physicians think that empirical data are by themselves adequate for meeting the requirements of their science ? The only answer we have from the *Caraka-saṃhitā* is in the negative. We shall later see how seriously the medical compilation discusses the problem of processing the empirical data by rational analysis and how strenuously the ancient doctors try to explore the possibility of extending their knowledge beyond the rather limited scope of depending on the unaided sense-organs. As a matter of fact, all this leads them to develop an epistemology of their own—an epistemology which is the direct outcome of their understanding of the methodology of science. Still the point is that all these never allow them to forget the basic fact that empirical knowledge forms the ultimate foundation of their science. One of the strongest points of Āyurveda is the accumlation of an enormous amount of empirical data on which are based its theoretical generalisations.

Before proceeding further, therefore, it is necessary for us to have some idea about the enormity of this data in Āyurveda. For the convenience of discussion, we may briefly mention these mainly under three heads, namely—

a) empirical data regarding the substances used for medical purposes,

66. *Ib*. i.48.43-4. Tr B.

b) empirical data regarding the pathological symptoms, and

c) how the need felt for the empirical data regarding the body creates the enthusiam for the dissection of corpses.

11. KNOWLEDGE OF SUBSTANCES

To begin with, those concerning the plants.

Thakur Balwant Singh and K. C. Chunekar, who have devoted decades of patient research to identify the vegetable drugs mentioned in the three major works of Āyurveda, enumerate their number as follows :

"As regards the total number of drug plants mentioned in the three *saṃhitā*-s, it appears, on a rough estimate, that it lies somewhere between six and seven hundred or it may be about six hundred, if the unidentified food grains, divine drugs and vegetable poisons are excluded, including of course the food-cum-drug plants and some of the drastic poisons accepted for use after some treatment. The number of Sanskrit names (excluding their derivatives) are about 1900, out of which, on a rough counting, about 670 are common to all the three texts and about 240, 370 and 240 have been exclusively mentioned in *Caraka-saṃhitā*, *Suśruta-saṃhitā* and *Aṣṭāṅga-hṛdaya-saṃhitā* respectively."[67]

To this it needs to be added that the medical works do not discuss the plants as such. What these discuss instead are the effects on our bodies of the different parts and products of the plants. As the *Caraka-saṃhitā* explains,

"Root, bark, pith, exudation, stalk, juice, sprouts, alkalies, milk, fruit, flower, ash, oils, thorns, leaves, buds, bulbs and off-shoots are the plant products used in medicine."[68]

Besides, the same substance of plant origin is often observed to serve a multiple medical purpose. One of the best examples

67. Balwant Singh & Chunekar pref. p. ix. 68. *Caraka-saṃhitā* i.1.73. Tr G.

of this is the fruit *āmalaka (Emblica officinalis)*, also called *amṛta-phala* and *dhātrī*. The *Caraka-saṃhitā* alone mentions its use over a hundred times, prescribing it or preparations made of it mainly as a tonic.[69]

But the medical compilations are concerned not merely with herbal pharmacy. The *Caraka-saṃhitā*, for example, discusses one hundred and sixtyfive varieties of animals. Enumerating the different animal products used for medical purposes, it says, "Honey, milk, bile, fat, marrow, blood, flesh, excrement, urine, skin, semen, bones, sinews, horns, nails, hooves, hair, *gorocanā* —these are the substances used in medicine from the animal world."[70]

As an example of the multiple use of the different products of the same animal, we quote here from the *Table of Medical Substances of Animal Origin and Their Uses* prepared by P. Ray and H. N. Gupta in their *Caraka-saṃhitā : A Scientific Synopsis*[71] :

Go-carman or cow-hide—its ashes recommended as an ingredient for a medicinal ghee, to be used internally in the treatment of insanity.

Go-kṣīra (go-payas) or cow's milk. Its use—

1. external : in a medicated oil ; for burns, stiffness, etc.,
2. external : in an ointment ; for dislocation, fractures, etc.,
3. as an ingredient for a nutritive enema ; for anaemia, amenorrhoea,
4. internal : as diet ; for debility, spleen diseases,
5. internal : in a mixture ; for jaundice, consumption, etc.,
6. internal : in a medicated ghee ; for menstrual disorders, tendency to abortion,
7. internal : in a linctus ; for heart diseases, excessive bile secretion, etc.,
8. internal : in candied sweets ; for heart-diseases etc.

Go-māṃsa or cow's flesh. Its uses—

69. Balwant Singh & Chunekar 36.
70. *Caraka-saṃhitā* i.1.68-9.
71. Ray & Gupta 40-41.

1. external : local application for absorption of venom ; for poisonous bites,
2. internal : as soup or broth ; for irregular fever, consumption, emaciation, etc.

Go-mūtra or cow's urine. Its uses—

1. external : as lotion ; for skin diseases,
2. external : in an ointment ; for pruritus, snake-bite, etc.
3. internal : as drink ; for jaundice, leucoderma, etc.,
4. internal : in a medicated ghee ; for insanity, epilepsy, etc.

Go-śakṛt or cow-dung. Its uses—

1. external : burnt for fumigation as diaphoretic,
2. external : ingredient of a poultice ; for skin lesions,
3. internal : in a medicated ghee ; for piles,
4. internal : as ingredient for a medicated ghee, or as aqueous extract with honey etc. ; for piles, poisoning, oedema, etc.,

Go-sarpis or cow's fat. Its use—

1. internal : in diet ; for debility, rheumatism.

Go-śṛṅga or cow's horn. Its use—

1. inhalation of fumes when burnt ; for accumulation of phlegm.

Go-snāyu or cow's sinews. Its use—

1. inhalation of the fumes when burnt ; for congestion of the respiratory tract.

In the same work Ray and Gupta prepare a *Table of Medical Substances of Mineral Origin and Their Uses.* It contains sixtyfour main entries. We quote from this Table an example of the multiple use of the same mineral substance or its products[72] :

Ayas or iron. Used for hot compress or fomentation ; for hard cutaneous swellings, varicocele etc.

Āyasa or finely powdered iron or specially prepared iron (also called *kālaloharajas, kṛṣṇāysa, kālāyasarajas*).

Its uses—

1. external : in a dusting powder ; for cutaneous eruptions,

72. *Ib.* 79.

2. external : an ingredient of a poultice ; for inflammation,
3. external : in an ointment ; for blindness, unseparated eyelids, tumours, piles,
4. external : in a hair-lotion, as hair-tonic and hair-dye,
5. internal : in a prescription after prolonged contact with cow's urine ; for leucoderma, jaundice, anaemia, heart diseases, anal fistula, etc.,
6. internal : in a linctus ; for toxicosis, asthma, cough, hiccup, etc.,
7. internal : in an acid liquid mixture ; for obesity, flatulence, debility, etc.,
8. internal : in a pill ; for anaemia, jaundice, oedema, gastro-intestinal irritations, lithiasis, etc.

Ayomala or iron-rust (also called *Maṇḍūra*). Its uses—

1. internal : in a linctus ; for toxic condition with fever, spastic paraplegia, epilepsy, urinary disorders, skin diseases, etc.
2. internal : in a preparation after prolonged treatment with cow's urine ; for anaemia, dropsy, oedema, urinary disorders, jaundice, dysentery, intestinal parasites, etc.

Such Tables apart, the *Caraka-saṃhitā* itself speaks of "six hundred purgatives and five hundred decoctions"[73], besides the eightyfour varieties of wines already referred to.

12. EXTENSION OF SENSE-KNOWLEDGE : DIAGNOSIS

We have mentioned all these to emphasise one point. The ancient doctors are not running after empty metaphysical postulates. Their main theoretical drive is determined by an imposing amount of empirical data.

Such data, it is true, are compiled mainly by unaided sense-organs. But this again is not to be misunderstood. In spite

73. *Caraka-saṃhitā* i.27.7.

of being inevitably dependent on unaided sense-organs, the physicians also feel the need of extending their knowledge beyond the limits of bare sense-perceptions. We quote here a long passage from the *Caraka-saṃhitā* which, though occurring in the context of diagnostic purposes, also shows the general need felt in Āyurveda to extend the range of knowledge given by the unaided sense-organs :

"Three indeed are the modes of ascertaining the specific nature of a disease. These are a) authoritative instruction *(āpta-upadeśa)*, b) perception *(pratyakṣa)* and c) inference *(anumāna)*.
"Of these, authoritative instruction means knowledge imparted by authoritative persons. Authoritative persons, again, are those who possess undisputed knowledge and memory, the technique of classification and whose observations are not affected by subjective factors called likes and dislikes. Because of being thus characterised, what they say is authoritative. By contrast, the words coming from persons that are inebriated, insane, stupid, subjectively inclined and given to half-truths are unauthoritative.
"Perception is that which is directly known by one's sense-organs and mind (which, even in later Indian thought, is generally viewed as an internal sense directly perceiving subjective states like pleasure and pain).
"Inference is cogitation based on rational application (*tarkaḥ yukti-apekṣaḥ*. But more of the meaning of inference later.)
"The diagnosis of a disease is faultless only after the disease has been fully examined in all its aspects with the help of these three ways of knowing. The full knowledge of an object cannot be obtained by only one of these ways of knowing.
"Of these three ways of knowing, the starting point is the knowledge derived from authoritative instruction. At the next step, it has to be critically examined by perception and inference. Without there being some knowledge obtained from authoritative instruction, what is there for one to examine critically by perception and inference ? For the learned, therefore, there are two modes of critical examination, viz. perception and inference Or,

if authoritative instruction also is included, the modes of critical examination are three.

"The learned (authorities) instruct as follows. Each disease is to be viewed as having such and such exciting factors, such and such sources, such and such onsets, is of such and such nature, has such and such location, produces such and such feelings (in the patient), has such and such symptoms, is characterised by such and such complications, has such and such stages of aggravation, stabilization and abatement, has such and such after-effects, has such and such names and is due to the contact with such and such things. From authoritative instructions are also known the remedies of a disease—both curative and preventive.

"One wanting to know the nature of a disease by perception should examine everything perceptible in the body of the patient and should use for the purpose all the sense-organs excepting the gustatory one. Thus for instance one should examine with the auditory sense the intestinal sounds, the sounds of the joints and finger knuckles, variations in the patient's voice, or any other sound that may be present in any part of the body.

"With the visual sense are to be examined the colour, shape, proportion and the general appearance as well as changes in physique and behaviour of the patient. Besides, whatever else can be the object of visual knowledge should also be similarly examined.

"The examination of the patient's body by the sense of taste, though falling under direct observation (perception), is prohibited. One should take recourse to inference for the purpose. Thus, the physician should ascertain the existing taste in the patient's mouth by the method of interrogation. The insipidity of the body-secretions of the patient is to be determined by the lice etc. deserting his body and the excessive sweetness of his body-products from the flies etc. accumulating on the body. If the disorder of hemothermia is suspected and it is necessary to determine whether the patient's blood is healthy or vitiated by bile, the physician should conclude that the blood is healthy if a sample of it is eaten by a dog, crow, etc. ; if it is not eaten, the physician should infer that it is a case of hemothermia. In

similar ways, the physician should know by inference the state of the rest of the patient's body-fluids.

"By the olfactory sense, the physicians should know the smell in the entire body of the patient, i.e. whether it is normal or abnormal.

"The physician should examine the feel of the patient's body by his hands (i.e. the sense of touch).

"Such then are the ways of examining the patient by perception, inference and instruction (authority).

"The following data should also be obtained by inference. Thus, the condition of digestive fire is to be determined by the patient's power of digestion, the patient's strength by his capacity for physical work, the condition of his sense-organs like ear etc. by their capacity for perception, the condition of his mind from his power of concentration, his understanding from the purposive nature of his actions, his passion from the intensity of his attachment, his infatuation from the lack of his understanding, his anger from the violent nature of his actions, his grief from his despondency, his joy from his exhilaration, his pleasure from his expression of satisfaction, his fear from his dejection, his fortitude from his courage, his vitality from his enthusiasm, his resolution from the absence of his vascillation, his faith from his opinions, his intelligence from his power of comprehension, his state of consciousness from the correct response to his name, his memory from his power of recollection, his modesty from his bashfulness, his character from his conduct, his aversion from his refusals, his evil intentions from his performances... The age, predilection, homology and etiological factor of the patient are to be inferred from the stage of his life, residence, homologous signs and the nature of pain respectively. Diseases with latent symptoms are to be inferred from the results of tests with curative or provocative medications, the degree of morbidity from the provocative factors, the imminence of death from the severity of the fatal prognostic signs, the expectation of recovery from wholesome inclinations, the clarity of mind from the absence of incoherence. As regards hard-bowelled conditions or soft-bowelled condition, the nature of his dreams,

his cravings, his likes and dislikes, his pleasures and pains—all these are to be known by interrogating the patient."[74]

Evidently, however, even such a thorough examination of the patient and his symptoms does not fully satisfy the ancient doctors. They want to know more about the patient—specially his environmental and other peculiarities, which, they feel, are also related to his condition. Hence the *Caraka-saṃhitā* mentions also the need for *bhūmi-parīkṣā* or "the examination of the place" for a more adequate understanding of the patient. Under this is recommended the collection of the following data :

"The doctor has to know the country where the patient is born, grows up or has developed the disease. The peculiarity of the country (whether it is arid or marshy etc.) has to be noted and along with it are to be noted the nature of the food-habits of that place, the mode of living and other customs of the people there. The doctor has to note the nature of the physical strength and mental make-up of the people, their general condition of health and the peculiarity of their habitat, their special proclivities, the kind of diseases by which they are usually infested and also what is usually considered as wholesome or unwholesome in these regions. Such then are the points which the physicians must note."[75]

In the *Suśruta-saṃhitā* also strong emphasis is put on the importance of direct sense-perception for diagnostic purposes. Thus the text says,

"(Having entered the sick-room) the physician should view the body of his patient, touch it with his own hands, and enquire (about his complaint). Several authorities hold that these three (inspection, touch and questioning) largely form the means of our ascertaining the nature of a disease. But that is not correct, inasmuch as the five sense-organs of hearing, sight, etc. and oral enquiry materially contribute to better diagnosis.

"Diseases which are to be diagnosed with the help of the

74. *Caraka-saṃhitā* iii.4.3-8. 75. *Ib.* iii.8.93. Free tr.

organ of hearing will be fully treated later on... The heat and coldness of the body, or the gloss, roughness, hardness or softness of the skin of the affected part as in fever, or in an oedematous condition of the body, are perceptible by the sense of touch. Fullness or emaciation of the body *(cachexia)*, the state and indications of vitality, strength, complexion, etc. are perceived by the sense of sight. Secretions or discharges (from the inflamed mucous membrane of the urethra) in *prameha* etc. should be tasted with the organ of taste. The characteristic smell emitted by an ulcer in its critical stage should be determined with the help of the organ of smell.

"While such facts as the time or season of the disease, the caste which the patient belongs to, the things or measures which tend to bring about a manifest amelioration of the disease, or prove comfortable to the patient, as well as the cause of the disease, the aggravation of pain, the strength of of the patient, and his state of digestion and appetite, the emission of stool, urine and flatus, or their stoppage, and the maturity of the disease as regards time, should be specifically ascertained by directly interrogating the patient (on these subjects). Though the above-said five organs of sense... help us to make the correct diagnosis of a disease, still the objects locally perceived by these senses should not be left out of account in ascertaining its specific nature."[76]

Though this discussion of the *Suśruta-saṃhitā* is less detailed than that of *Caraka-saṃhitā* just quoted, it needs to be noted that it seems to go a step further than the latter, inasmuch as it does not hesitate to use the sense of taste also for diagnostic purposes. However, what is much more remarkable—and even truly revolutionary—about the surgical text is that, carried by its zeal for direct sense-perception, it goes to the extent of emphasising the importance of the practice of dissecting human corpse, without which as the text claims, the knowledge of anatomy can never be satisfactory. This is a unique feature of Āyurveda. Specially in the Indian context of strong religious taboos against touching a corpse

76. *Suśruta-saṃhitā* i.10.3-5. Tr. B.

and the strong philosophical contempt for sense-knowledge already preached in the Upaniṣads, it evidently required of the physicians and surgeons the most extraordinary courage to claim this.

13. DISSECTION OF CORPSE

The *Suśruta-saṃhitā* asserts that it is essential for the doctors—specially for the surgeons—to have sound knowledge of human anatomy. There are no doubt authoritative works on the subject from which the students of medicine and surgery can get this knowledge. But that is not enough. The knowledge gained from the text-book of anatomy can acquire certainty only when it is corroborated by the direct observation of the different organs within the body. How then can one have this knowledge based on direct observation ? For the ancient Indian surgeons there is only one answer to it, and that is to dissect the dead bodies. As the *Suśruta-saṃhitā* says :

"The different parts or members of the body as mentioned before—including even the skin—cannot be correctly described by one who is not versed in anatomy. Hence any one desirous of acquiring a thorough knowledge of anatomy should prepare a dead body and carefully observe, by dissecting it, and examine its different parts. For a thorough knowledge can only be acquired by comparing the accounts given in the *śāstra*-s (authoritative works on the subject) with direct personal observation."

tasmāt niḥsaṃśayaṃ jñānaṃ hartrā śalyasya vāñchatā /
śodhayitvā mṛtaṃ samyag draṣṭavyaḥ aṅga-viniścayaḥ //
pratyakṣataḥ hi yat dṛṣṭaṃ śāstra-dṛṣṭaṃ ca yat bhavet /
samāsataḥ tat ubhayaṃ bhūyaḥ jñāna-vivardhanam //[77]

How then is this dissection to be done ? The *Suśruta-saṃhitā* answers :

77. *Ib.* iii 5.59-60. KSS-ed. B iii.5.49.

"A dead body selected for this purpose should not be wanting in any of its parts, should not be of a person who has lived up to a hundred years (i.e. up to a very old age) or of one who died of any protracted disease or of poison. The excrementa should be first removed from the entrails and the body should be left to decompose in the water of a solitary and still pool, and securely placed in a cage (so that it may not be eaten off by fish or drift away), after having covered it entirely with the outer sheaths of *muñja* grass, *kuśa* grass, hemp or with rope, etc. After seven days the body would be thoroughly decomposed, when the observer should slowly scrape off the decomposed skin etc. with a whisk made of grass-roots, hair, *kuśa* blade or with a strip of split bamboo and carefully observe with his own eyes all the various different organs, internal and external, beginning with the skin as described before" : *tasmāt samasta-gātram aviṣopahatam adīrgha-vyādhi-pīḍitam avarṣaśatikaṃ niḥsṛṣṭāntra-purīṣaṃ puruṣam avahantyām āpagāyāṃ nibaddhaṃ pañjarasthaṃ muñja-valkala-kuśa-śaṇādīnām anyatamena āveṣṭita-aṅga-pratyaṅgam aprakāśe deśe kvāthayet : samyak prakuthitaṃ ca uddhṛtya tato dehaṃ sapta-rātrāt uśīra-bālavenu-valkala-kurcānām anyatamena śanaiḥ śanaiḥ avagharṣayan tvagādīn sarvān eva bāhya-ābhyantara-aṅgaviśeṣān yathoktān lakṣayet cakṣuṣā.*[78]

It must have been extremely difficult to procure for the purpose of dissection a dead body, specially one with the specifications mentioned by the surgeons. In other words, such a corpse must have been something extermely precious for anatomical studies and hence could not be allowed to be mutilated by the beginners yet to acquire the skill of dissection. It seems that such a consideration leads the ancient surgeons to recommend some kind of a preparatory course for acquiring the technical skill of dissection by practising it on certain fruits and dummies. In any case, we read in the *Suśruta-saṃhitā* an account which may as well be taken as getting the students of bio-sciences in ancient India prepared with the technical skill of using the knife. The text says,

78. *Ib.* iii.5.61. KSS-ed. B iii.5.49-56.

"The preceptor should see his disciple attends the practice of surgery even if he has already thoroughly mastered the several branches of the science of medicine, or has pursued it in its entirety. In all acts connected with surgical operations of incision, etc., and injection of oil, etc., the pupil should be fully instructed as regards the channels along or into which the operations or applications are to be made. A pupil, otherwise well-read, but uninitiated in the practice (of medicine or surgery) is not competent to take in hand the medical or surgical treatment of a disease. The art of making specific forms of incision should be taught by making cuts in the body of a *puṣpaphalā* (a kind of gourd), *alāvū* (bottle-gourd) or *ervārūka* (cucumber). The art of making cuts either in the upward or downward direction should be similarly taught. The art of making excisions should be practically demonstrated by making openings in the body of a full water-bag, or in the bladder of a dead animal, or in the side of a leather pouch full of slime or water. The art of scraping should be instructed on a piece of skin on which the hair has been allowed to remain. The art of venesection should be taught on the vein of a dead animal, or with the help of a lotus stem. The art of probing and stuffing should be taught on worm-eaten wood, or on the reed of a bamboo or on the mouth of a dried *alāvū* (gourd). The art of extracting should be taught by withdrawing seeds from the kernel of a *vimbī* or *vilva* or jack-fruit, as well as by extracting teeth from the jaws of a dead animal. The act of secreting or evacuating should be taught on the surface of a *śālmalī* plank covered over with a coat of bee's wax, and suturing on pieces of cloth, skin or hide. Similarly, the art of bandaging or ligaturing should be practically learnt by tying bandages round the specific limbs and members of a full-sized doll made of stuffed linen. The art of tying up a *karṇasandhi* (severed ear-lobe) should be practically demonstrated on a soft severed muscle or on flesh, or with the stem of a lotus lily. The art of cauterising, or applying alkaline preparations (caustics) should be demonstrated on a piece of soft flesh ; and lastly the art of inserting syringes and injecting enemas into the region of the bladder or into an ulcerated channel, should be taught by asking the pupil to insert a

tube into a lateral fissure of a pitcher, full of water, or into the mouth of a gourd *(alāvū)*.

"An intelligent physician who has tried his prentice hand in surgery (on such articles of experiment as gourds, etc., or has learnt the art with the help of things as stated above), or has been instructed in the art of cauterisation or blistering (application of alkali) by experimenting on things which are most akin, or similar to the parts or members of the human body they are usually applied to, will never lose his presence of mind in professional practice."[79]

Beginning thus with such substitutes and dummies, the student must acquire sufficient surgical skill before applying it on the human bodies. But the point is that the practice on such substitutes is not enough for the study of surgery and medicine. Notwithstanding the importance of preparatory practices like these, the *Suśruta-saṃhitā* does not want the medical students to stop at it. It insists that the actual dissection of the corpse is a must for the medical students, because this is the only way of directly observing the different organs within the body and direct observation alone ensures the ultimate certainty of our knowledge.

This emphasis on the supreme importance of knowledge based on direct observation is enough to annoy the spokesmen of orthodoxy, because it leaves hardly any scope for their advocacy for the implicit faith in the scriptures. However, the *Suśruta-saṃhitā* has reasons to annoy them much more when—carried by its zeal for empirical data—it goes to the extent of claiming that the actual dissection of the corpse is an essential precondition for anatomical knowledge. In the orthodox view, the corpse is something too impure to be normally touched. If one is compelled to touch it, say for the purpose of carrying it for cremation, one has to perform purificatory rites to get rid of the impurity or pollution resulting from the touch. This is a point persistently emphasised by the Indian law-givers, beginning with Āpastamba and Gautama, who lived

79. *Ib.* i.9.2-3. Tr B.

some centuries before the Christian era. We shall mention here only a few examples.

Āpastamba says that the presence of a corpse—like that of the meanest human beings called Caṇḍālas—is so polluting for the entire atmosphere that even the study of the holy scriptures has to be suspended there. As he puts it, "(One must not study the scriptures in a village) in which there is a corpse or in such a one where the Caṇḍālas live. One must not study where corpses are being carried to the boundary of a village."[80]

Gautama says, "On touching (i.e. on carrying) a corpse from an interested motive (i.e. with the intention of gaining a fee or the like), the impurity lasts for ten days."[81] The commentator Haradatta explains, "The word impurity indicates here merely that the performer of the act must not be touched and has no right to perform sacred ceremonies."[82] Gautama continues, "On touching an outcast, a Caṇḍāla, a woman impure on account of her confinement, a woman in her courses, a corpse, and on touching persons who have touched them, he must purify himself by bathing dressed in his clothes. Likewise, if he has followed a corpse that was being carried, and if he has come into contact with a dog."[83] Manu declares, "Those who have touched a corpse are purified after one day and night, added to three periods of three days...A pupil who performs *pitṛmedha* for his diseased teacher, becomes also pure after ten days, just like those who carry the corpse to the cremation ground."[84] Again, "When he has touched a Caṇḍāla, a menstruating woman, an outcast, a woman in childbed, a corpse, or one who has touched a corpse, he becomes pure by bathing."[85] And so on. A large number of passages like these can easily be quoted from the Indian legal literature, beginning from its earliest phase.

It is not necessary for our present purpose to trace the origin of the belief according to which the very act of touching a corpse is a pollution. The belief may have its origin in the primitive

80. Āpastamba i.3.9.14-6 81. Gautama xiv. 23. 82. SBE ii.252n.
83. Gautama xiv.30-2. 84. Manu v.64-5. 85. *Ib.* v.85.

ignorance concerning the possible magical contamination by death. But the more important point is to note that the belief, as we come across it in the Indian legal literature, acquires the form in which the primitive ignorance is already institutionalised by the powerful priest-class. Outside the ideological underworld usually called Tāntrism, any act of deliberately touching the corpse is a gross transgression of the code of conduct as outlined by the law-givers. This creates formidable difficulties for the progress of medical science in the country. We need not necessarily go back to the ancient period to see the nature of the difficulty. Here is a passage from *A Biographical Sketch of David Hare* by Peary Chand Mitra, which enables us to see vividly how the difficulty continues even in the thirties of the nineteenth century, when the Calcutta Medical College is founded :

"I will state however one fact which will show how Mr. Hare was anxious to see the project of the Medical College finally brought about and settled without opposition. One evening as I was sitting with him, I saw Baboo Muddosuden Gupta, the then Professor of Sanskrit Medical Science of the Sanskrit College, entering the room in all haste. Mr. Hare viewing him said at once—'Well, Muddoo what have you been doing all this time ? Do you know what amount of pain and anxious thoughts you have kept me in for a week almost ? I have met Radhacant, and I am hopeful from what he said to me. Now what have you to say ? Have you found the text in your Shester authorising the dissection of dead bodies ? ' Muddoo answering in the affirmative said, 'Sir, fear no opposition from the orthodox section of the community. I and my pundit friends are prepared to meet them if they come forward, which I am sure they will not do.' Mr. Hare felt himself relieved at this declaration on the part of the professor, and said he would see His Lordship tomorrow positively, meaning as far as I can recollect Lord Auckland."[86]

What trump card Madhusudan Gupta was then holding

86. I am indebted to Professor Barun De for drawing my attention to this passage.

against the orthodox community is not known to us. This much is known, however, that when—in 1836—scalpel in hand he followed Dr. Goodeve to the godown for the actual dissection of a corpse kept there, his courage had to be boosted by the booming guns from Fort William.[87]

If, hardly about hundred and fifty years back, so much of courage is needed to overcome the orthodox opposition to dissection—and all this even under the protection and patronage of a powerful Government—it is not difficult to imagine how much greater courage must have been required of the ancient scientists to prescribe a detailed mode of dissection as an essential precondition for attaining medical proficiency. But this courage of the pioneers of medical science must have made them the objects of intense contempt in the eyes of the spokesmen of Indian orthodoxy—the law-givers. If the bold defence of the need for dissection is a unique feature of the Indian medical literature, the hatred for the doctors and surgeons is also a unique feature of the Indian legal literature. But more of this later.

14. THE ANCIENT GREEK DOCTORS

The great care taken in Indian medicine for direct observation cannot but be reminiscent of what is usually described as one of the greatest achievements of ancient Greek medicine. Sigerist in his *Man and Medicine* enthusiastically describes the latter : "Greek medicine accomplished prodigies in the observation and classification of pathological symptoms. All the senses were called into service for this task, and that in a degree far beyond what is done today. The Hippocratic doctor observed the face of the sick man, its form, colour and expression ; also the different parts, the eyes, ears, nose and tongue. He took note of the way in which the sick man held himself in the bed, and the part of the bed in which he lay, whether the top or the bottom ; what

87. Subbarayappa in CHSI (ed. Bose *et al*) 552.

he was doing with his hands, whether they were still or agitated as if in pain, as if the patient was trying to catch flies or scratch the wall. The skin, the nails, the hair were observed, the form and colour of the body, the state of strength, the appetite, shiverings, tremblings, also the urine, stools, expectorations and blood. An ear was put against the wall of the chest, and the doctor heard a kind of gurgling—the rattling of the cavities—or again a kind of crepitation like that produced by a leather belt : the rubbing of the pleura attacked by a dry inflammation. Or else he shook the sick man and heard the ripple of the pleural effusion.

"By means of touch he noted the temperature of the patient, his pulse, the resistance to pressure offered by certain parts of the body, the situation, size, shape, consistence and sensitivity of tumours, etc.

"But smell and taste were also put at the service of the examination. 'With feverish patients the nose furnishes many valuable indications, for the smells are very different from one another', says the Hippocratic work on *Predictions*. And the Greek doctor did not shrink even from tasting the excreta.

"What could not be learned in this way was sought to be supplied by interrogating the patient : the onset of the disease, the subjective state of the invalid, his sleep and dreams, his hunger and thirst, his pains, his itchings, and other complaints.

"Without exaggeration it can be said that the Greek doctor allowed none of the pathological symptoms which can be perceived by the aid of the five senses to escape him."[88]

This tendency of ancient Greek medicine has commanded very great respect for it even in modern times. "Before World War II", adds Sigerist, "a movement arose which was called neo-Hippocratic ; it emphasised the value of clinical observation at a moment when physicians were relying more and more on laboratory findings."[89] It is not the place for us to evaluate such modern tendencies, but it is of importance to note how this historian of medicine wants to pay tribute to what survives for us as the medical works of ancient Greeks usually called

88. Quoted by Farrington SPAW 61-2. 89. Sigerist ii.260.

the Hippocratic corpus. "One of them," observes Sigerist, "which has the simple title *Prognostic*, is one of the finest books of the entire *Corpus*. It reveals a power of observation on the part of the physician and a wealth of clinical experience that command greatest admiration. The second chapter gives the description of the face of a moribund patient for which the technical term *facies hippocratice* was coined and is still used today."[90]

15. KNOWLEDGE AND INTERVENTION : INDIA AND GREECE

There is another point which we cannot possibly ignore in the present context. Observation of pathological symptoms gives us clinical knowledge no doubt. For the doctors, however, this knowledge cannot be an end in itself. It is only a means to an end and the end can only be the cure of the patient. The *Suśruta-saṃhitā* wants to be very clear about this. Thus, immediately after the passage we have already quoted, in which it prescribes how the physician should employ all his sense-organs for obtaining clinical knowledge, the text says,

"Having made these observations, the physicians will try to cure diseases that are curable, adopt palliative measures in cases where palliation is all that can be offered, and should not take up a case which is beyond all medical treatment, and mostly give up those cases which are of more than a year's standing" : *evam abhisamīkṣya sādhyān sādhayet ; yāpyān yāpayet ; asādhyān na upakramet ; parisamvatsarotthitān ca vikārān prāyaśo varjayet.*[91]

The ancient Indian doctors apparently knew the limits of their therapeutic technique. There were many diseases which they could not and therefore did not pretend to cure. Chronic

90. *Ib.* ii. 281. 91. *Suśruta-saṃhitā* i.10 7. KSS-ed.

cases of more than a year were mostly so. This honest acknowledgement of the limitations of their therapeutic technique seems to be an important feature of their science consciousness. But there is a more important point about them. Knowledge for them is not a mere matter for meditation, but a very practical matter. It is a guide to action. It teaches the physicians how to intervene intelligently for the purpose of ensuring actual cure or at least effective palliation. Knowledge for them is important only in so far as it ensures practical success. The *Caraka-saṃhitā* wants to emphasise this point in various ways. Here is only one example of it :

"He is the best of physicians who can in actual practice cure people of diseases. Practical success depends on the right application of all the relevant measures. Thus it is practical success which makes one a first rate physician endowed with all the required medical qualifications."

sa ca eva bhiṣajāṃ śreṣṭhaḥ rogebhyaḥ yaḥ pramocayet //
samyak-prayogaṃ sarveṣāṃ siddhiḥ ākhyāti karmaṇām /
siddhiḥ ākhyāti sarvaiḥ ca guṇaiḥ yuktaṃ bhiṣaktamam //[92]

We have emphasised this aspect of Āyurveda, because it is one of the important points in which medicine of ancient India differs from that of ancient Greece. However great may be the achievement of ancient Greek doctors from the viewpoint of clinical knowledge, it is strange to note that even the "prodigies" accomplished by them in the observation of pathological symptoms do not inspire in them any notable confidence in the actual therapeutic technique. Here is how J. D. Bernal sums up the situation :

"Unfortunately, in spite of their careful clinical studies, the School of Cos (i.e. the Hippcratic school) were also in no position to prescribe effective treatment. They excelled in prognosis and relied on the patient, if not given violent and unsuitable treatment, getting well through the curative power of Nature."[93]

This criticism of the Hippocratic doctors is not a new one. Already in the first century B.C. the Roman physician Asclepiades called the Hippocratic treatment a "meditation upon

92. *Caraka-saṃhitā* i.1.134-5. 93. Bernal 190.

death."[94] "In 1836", says Jones, "a French doctor, M. S. Houdart, violently attacked this medical doctrine on the ground that it neglected the physician's prime duty, which is to effect a cure. Diagnosis, he urges, is neglected in the cult of prognosis : no attempt is made to localize the seat of disease ; the observations in the *Epidemics* are directed towards superficial symptoms without any attempt to trace them to their real cause. The writer is an interested but callous spectator who looks on unmoved while his patient dies."[95]

W. H. S. Jones, one of the greatest authorities on Greek medicine, wants to defend it against such a criticism. "In this rather rabid criticism," he says, "there is a morsel of truth. The centre of interest in these treatises is certainly the disease, rather than the patient. The writer is a cold observer of morbid phenomena, who has for a moment detached himself from pity for suffering. But this resetraint is in reality a virtue ; concentration on the subject under discussion is perhaps the first duty of a scientist. Moreover, we must not suppose that the fatally-stricken patients of the *Epidemics* received no treatment or nursing. Here and there the treatment is mentioned or hinted at, but the writer assumes that the usual methods were followed, and does not mention them because they are irrelevant."[96]

This looks more like an apology for the medical writings than the defence of medicine proper. The detachment of the scientist—the importance of his keen interest in morbid phenomena—need not be belittled. However, from the standpoint of medical science, all this cannot be an in end itself. The ultimate end can only be effective help rendered to the patient,—if not immediately, at least in the long run,—unless medical research is identified with that perverse pursuit of allegedly pure wisdom called metaphysics. Besides, it is not at all clear why the mention of treatment should be considered irrelevant for medical literature. If viewed as irrelevant for medical literature itself, where else can the mention of actual treatment be considered relevant ?

94. Jones i. intro. p. xviii n.
95. *Ib.* i. intro. p. xvii-xviii.
96. *Ib* i. intro. p. xviii-xix.

Sigerist attempts a somewhat different line of defence. The Hippocratic doctors, he argues, do not ignore the question of actual treatment ; only they have their special form of treatment to recommend. As he puts it, "Treatment in Hippocratic medicine was primarily dietetic. Diets were reinforced with drugs and only as a last resort was the knife used. Hence we expect to find in the collection books specially devoted to therapeutics. It goes without saying that all clinical books, whether they be dietetic, pharmacological, or surgical, discuss treatments ; we have however special monographs on these subjects, such as the one *On Diet in Acute Diseases*."[97]

One naturally feels hesitant to differ with an authority as eminent as Sigerist. But the actual reading of the Hippocratic corpus inevitably gives one the impression that the claim that all clinical books in it discuss treatment is an exaggeration. But let us leave that point and see what the "special monograph" on treatment, viz. *On Diet in Acute Diseases*, has to say about it.

Jones, who translates the title of this work as *Regimen in Acute Diseases*, has already summed up its therapeutic content. We quote here two of his observations :

"I have just pointed out that the silence of the *Epidemics* on the subject of treatment must not be taken to mean that no treatment was given, but it remains to be considered whether all was done that could have been done. What remedies were used by the author of *Regimen in Acute Diseases* ? They were :—1) Purgatives and, probably, emetics. 2) Fomentations and baths. 3) (a) Barley-water and barley-gruel, in the preparation and administering of which great care was to be taken. (b) Wine. (c) Hydromel, a mixture of honey and water : and oxymel, a mixtnre of honey and vinegar. 4) Venesection. 5) Care was taken not to distress the patient."[98]

Introducing the translation of *Regimen in Acute Diseases*, described as "indisputably one of the great Hippocratic group of treatises",[99] Jones returns to the question of actual remedies and observes :

97. Sigerist ii. 282-3. 98. Jones i. intro. p. xix-xx. 99. *Ib.* ii.59.

"The Hippocratic treatment is gentle and mild. Little use is made of drugs ; those employed are purges and simple herbals. Fomentations and baths are features of Hippocratic regimen, and, did occasion call for them, the enema, suppositories, and venesection were employed. A sparing use was made of water, the drinks recommended being hydromel (honey and water), oxymel (honey and vinegar) and wine. But the great stand-by of the physician in acute diseases was the decoction of barley, 'ptisan', which I have translated by 'gruel' for the sake of convenience."[100]

As a list of actual remedies for diseases, this looks hardly imposing. Nor is the argument convincing that in the ancient period nothing more could perhaps be done, because it is well-known that the ancient Egyptians for example could do much more.[101]

Yet the *Regimen in Acute Diseases* is viewed by the experts as not only one of the best works on ancient Greek medicine but moreover richest in therapeutic content.

It is thus no use overlooking the fact that in the Hippocratic corpus there is on the whole less attention given to the question of what is to be done by the doctors. These writings show much greater enthusiasm for philosophy than for the technique of curing the sick. In fact Jones himself has to admit, "they belonged to theory without seriously affecting practice."[102] But it is not even genuine medical theory in which these works show interest ; what these discuss is more often some preconceived philosophical theory, the medical context being no more than a mere apology for introducing it. Even simple medical observations soon make room for pure philosophical speculation. Here is an example of this :

"Clinical monographs of another kind are those *On Crises* and *On Critical Days*. In a region in which malaria was endemic, nothing struck the medical observer's imagination more forcibly than the iron rhythm that the disease followed, with attacks of fever and remissions that could be predicted to the very hour. It was soon found that other diseases such as relapsing fever,

100. *Ib.* ii.59-60. 101. Sigerist ii, 297ff. 102. Jones i. intro. p. 1.

pneumonia and the like also had a certain rhythm, taking a turn for the better or the worse on definite days. This opens the door to speculation with numbers, particularly in a country that was subject to Babylonian influences and where, on the other hand, the Pythagoreans had considered number the essence of all things. Thus the *Corpus Hippocraticum* contains not only treatises on the critical days but also a very puzzling one *On Periods of Seven Days,* transmitted partly in Greek and partly in three different Latin versions. We mentioned in another connection the treatises *On the Seven-Month Embryo* and *On the Eight-Month Embryo* in which speculation on numbers plays an important part."[103]

There is thus in the Hippocratic corpus not merely a neglect of the practical aspect of the physician's work but also a strange tendency to be easily lured by the fascination for pure speculation, inclusive of such semi-mystical speculations on "numbers" characteristic of the Pythagorean school of philosophy.[104] Therefore, instead of trying to defend the appallingly thin therapeutic content of this medical literature, we are confronted with the more serious question concerning its strange proclivity for pure speculation. Why do the authors of the Hippocratic works, in spite of choosing to write on medical matters, take so much delight in pure contemplation as to be on the whole indifferent to medical practice proper ?

This question is crucial for understanding the general trend of these medical writings specially as contrasted with the scientific core of the Āyurvedic literature, in which the practical efficacy of medical science is very prominently emphasised. Besides, the question has a much wider interest than the limited one of understanding the peculiarity of the Hippocratic writings alone. We shall see that the answer to this contains the clue to the eventual decline of medical science not only in ancient Greece but also in ancient India, and this because of certain forces generated in society—forces that become inimical to

103. Sigerist ii.279-80. 104. Schweglar 14 aptly describes this' 'arthimetical mysticism' as the 'phantasies of a fanaticism at once unbridled and cold'.

science. Pending a fuller discussion of this, we shall note here only a few points that are quite obvious.

One of the most brilliant pieces in the Hippocratic corpus is a brief work in defence of medical science. It is called *Ancient Medicine.* Though its author is really unknown to us[105], the significance of the title he chooses for it is not to be overlooked. He defends *ancient* medicine and this mainly against the prevailing trend in medicine during his own times, which, according to the modern scholars, is roughly the middle of the fifth century B. C.[106]

In other words, he strongly feels that the great glory and supreme importance of this ancient discipline are being seriously threatened by certain fashions that are assuming increasing importance during his times. What then is the main point of this glory and what are the new trends threatening it ?

The essence of this glory, as he puts it, is that medicine "is an art, and one which all men use on the most important occasions, and give the greatest honours to the good *craftsmen and practitioners* in it."[107] The difference between a good doctor and a bad doctor, accordingly, is analogous to the difference between a good craftsman and a bad craftsman : "just as in all other arts the workers vary much in skill and in knowledge, so also it is in the case of medicine."[108] Elsewhere, emphasising the point, he speaks of the "physician, who is an acknowledged handicraftsman."[109] Such an understanding of the role of the doctor leads the author of *Ancient Medicine* to take a remarkable view of medical science itself not only as a discipline striving after progressive perfection on the basis of patient researchers of successive generations of workers inheriting the results of the earlier ones but moreover as a discipline with clear commitment to democratic values. The passage expressing these, having significance even for our times, may be quoted at some length :

"But medicine has long had all its means to hand, and has discovered both a principle and a method, through which the dis-

105. Jones i.3. 106. Farrington GS 67. 107. Jones i.13. Emphasis added. 108. *Ib.* 109. *Ib.* i.25.

coveries made during a long period are many and excellent, while full discovery will be made, if the inquirer be competent, conduct his researches with knowledge of the discoveries already made, and make them his starting-point... But it is particularly necessary, in my opinion, for one who discusses this art to discuss things familiar to ordinary folk. For the subject of enquiry and discussion is simply and solely the sufferings of these same ordinary folk when they are sick or in pain. Now to learn by themselves how their own sufferings come about and cease, and the reasons why they get worse or better, is not an easy task for ordinary folk ; but when these things have been discovered and are set forth by another, it is simple. For merely an effort of memory is required of each man when he listens to a statement of his experiences. But if you miss being understood by laymen, and fail to put your hearers in this condition, you will miss reality."[110]

Such then is the understanding of medicine of our unknown author. It is essentially of the nature of a technique or craft—i.e. predominantly a form of manual operation—concerned above all with the sufferings of the ordinary folk, by whom it needs to be understood. But it is *ancient* medicine that he speaks of, which he wants to protect, as he himself puts it, against "the theory of those who prosecute their researches in the art after the novel fashion"[111] or "the theory of the new school."[112] In other words, he wants to argue with great passion in defence of a tradition which, he feels, is basically threatened by the new fashions becoming increasingly prominent in his own times. Before passing on to see how our author describes these new fashions, it may be useful to quote some of his contemporaries—some Greek authorities belonging roughly to the fifth century B.C.—who describe for us more vividly the fast vanishing status of manual work or craftsmanship itself, to the general category of which ancient medicine belongs.

Xenophon makes Socrates deliver the following judgment on manual work :

"What are called the mechanical arts carry a social stigma and

110. *Ib.* i. 16-7. 111. *Ib.* i.35. 112. *Ib.*

are rightly dishonoured in our cities. For these arts damage the bodies of those who work at them or who have charge of them...This physical degeneration results also in deterioration of the soul. Furthermore, the workers at these trades simply have not got the time to perform the offices of friendship or of citizenship. Consequently they are looked upon as bad friends and bad patriots. And in some cities, especially the warlike ones, it is not legal for a citizen to ply a mechanical trade."[113]

Writing in the fifth century B. C., Herodotus also observes : "With the Greeks, as with the Egyptians, Thracians, Scythians, Persians, Lydians, and almost all non-Greeks, those who learn a craft and the children of those who learn a craft are held in less esteem than the rest of the citizens. The noble are those who have escaped the yoke of manual labour."[114]

These are two competent judgments on the status of manual work in Greece during roughtly the same period in which the author of *Ancient Medicine* wants to look back at the healing art as essentially a form of technique or handicraft. Could the practice of medicine remain unaffected by the general contempt for the crafts and craftsmen in the society in which our author lived? Farrington observes, "Obviously a social division so deep as this, a cleavage which, when complete, made it impossible for the same man to be both worker and citizen, could not be without effect on the science and practice of medicine, which touch the life of every man."[115]

But what is the mode in which medicine is affected by this cleavage in society ? Answers Farrington :

"I shall consider a phenomenon contemporary with the dawn of Greek medical writing, though not with the dawn of Greek medicine. I mean tbe invasion of medical science by *a priori* philosophical concepts. In my view this is very germane to the subject of the hand in healing, for those *a priori* speculations emanated from medical amateurs who had continued to use their heads but had given up using their hands. The empty hypotheses, which began to threaten the science of medicine from the fifth century

113. Quoted by Farrington HHAG 28-9. 114. Herodotus ii.167. Quoted by Farrington HHAG 33. 115. Farrington HHAG 29.

B. C. onwards, represented primarily not an aberration of the individual mind, but the emergence of a new class in society, the leisured class. For them theory bore no relation to practice. The head was independent of the hand. They were what Professor Gordon Childe has called 'theoretical researchers.' So far as they succeeded they transformed medicine from a positive science into a speculative philosophy."[116]

We do not expect the author of *Ancient Medicine* to give us such an illuminating sociological analysis of the actual cause that threatened the development of medicine in ancient Greece. However, conscientious scientist that he is, he comes out sharply against the tendency of encouraging metaphysics to invade medicine. His passionate defence of medicine is in fact primarily a protest against this invasion, which, as he feels, is the invasion of a useful positive science by the empty postulates fabricated by the philosophers' brains. The opening chapter of his work needs to be quoted here in full :

"All who, on attempting to speak or to write on medicine, have assumed for themselves a postulate as a basis for their discussion—heat, cold, moisture, dryness, or anything else that they may fancy—who narrow down the causal principle of diseases and of death among men, and make it the same in all cases, postulating one thing or two, all these obviously blunder in many points even of their statements, but they are most open to censure because they blunder in what is an art, and one which all men use on the most important occasions, and give the greatest honours to the good craftsmen and practitioners in it. Some practitioners are poor, others very excellent ; this would not be the case if an art of medicine did not exist at all, and had not been the subject of any research and discovery, but all would be equally inexperienced and unlearned therein, and the treatment of the sick would be in all respects haphazard. But it is not so ; just as in all other arts the workers vary much in skill and in knowledge, so also it is in the case of medicine. Wherefore I have deemed that it has no need of an empty postulate, as do insoluble mysteries, about which any exponent must use a postu-

116. *Ib.* 30

late, for example, things in the sky or below the earth. If a man were to learn and declare the state of these, neither to the speaker himself nor to his audience would it be clear whether his statements were true or not. For there is no test the application of which would give certainty."[117]

This polemic, as it is well-known, is directed specially against the school of Empedocles, the postulates of which "produced its worst effects on the healing art."[118] At the same time, it is a protest against the general tendency of the age of exalting theory over practice—a tendency which is attested to by many works in the Hippocratic corpus itself. An immediate result of this tendency is the arbitrariness of the medical prescriptions, against which another conscientious scientist—the author of the *Regimen in Acute Diseases*—storngly protests, though he also opens his work with the criticism of a rival school and its treatise with the title *Cnidian Sentences.* Here is his judgment on the arbitrary recommendation of drugs and diets which he finds prevalent in his times : "For instance, it has not been ascertained why in acute diseases some physicians think that the correct treatment is to give unstrained barley-gruel throughout the illness; while others consider it to be of first-rate importance for the patient to swallow no particle of barley, holding that to do so is very harmful, but strain the juice through a cloth before they give it. Others again will give neither thick gruel nor yet juice, some not before the seventh day, others at no time until the disease reaches a crisis. Now certainly physicians are not at all in the habit of even raising such questions; even when they are raised perhaps nothing is learned. Yet the art as a whole has a very bad name among laymen, so that there is thought to be no art of medicine at all. Accordingly, since among practitioners there will prove to be so much difference of openion about acute diseases that the remedies which one physician gives in the belief that they are the best are considered by a second to be bad, laymen are likely to object to such that their art resembles divination ; for diviners too think that the same bird, which they hold to be a happy omen on the left, is an unlucky one when on the

117. Jones i.14-5. 118. Farrington GS 70.

right, while other diviners maintain the opposite. The inspection of entrails shows similar anomalies in its various departments. But I am confident that this inqniry is wholly profitable, being bound up with most, and the most important, of the things embraced by the art. In fact, it has great power to bring health in all cases of sickness, preservation of health to those who are well, good condition to athletes in training and in fact realization of each man's particular desire."[119]

Thus, with this confidence in the efficacy of the physician's technique, the author of the *Regimen in Acute Diseases* sees the actual practice of medicine becoming so arbitrary as almost to degenerate to the level of divination. This neglect of practice takes its revenge on the theoretical aspect of medicine as well, by condemning it to emaciation and emptiness. We shall mention here only two examples.

In a slave-owning society in which manual work is looked at with contempt, we do not expect the doctor-philosophers—who belong to the class of the elites—to take an active interest in the work of herb collection. And the fact is that they do not take such an interest. The work is relegated to the class of manual workers—the herb-collectors. This deprives the doctor-philosophers not only of the knowledge of the drugs proper but also of the opportunity of enriching their general outlook in various other ways. Thus, referring to the use of drugs in the medical literature of ancient Greece, Sigerist[120] observes :

"Drugs are mentioned in a great many books, whenever treatments are discussed, but in its present form the *Corpus Hippocraticum* contains no pharmacological book. A herbal listing of various drugs describing their preparation and medical indications would have been very useful, as would also have been a collection of recipes such as we find in Egyptian papyri. Actually there are references to a lost book on drugs and some printed editions have a short treatise of only a page and a half *On Drugs*, which deals with purgative remedies and must be a late interpolation, for it is never mentioned in antiquity. Pharmacological therapy does not play an important part in Hippo-

119. *Ib.* ii.69-71. 120. Sigerist ii.284.

cratic medicine. Its drugs were mostly house remedies, the kind of plants that the *rhizotomoi* and *pharmacopolai* gathered and kept for sale."

When we compare this with the information of the creative period of Āyurveda as preserved in the major compilations of it, we can easily see how much of the opportunity of enriching medical theories with scientific contents is actually missed by the Hippocratic writers by their indifference to the work of herb-collection. The Āyurvedic compilations lay special emphasis on the work of herb-collection by the physician himself. This provides him with the opportunity also of vastly improving his theoretical equipment. Here is a discussion of this from the *Suśruta-saṃhitā* :

"These are the general features of a ground which is recommended for the culture of medicinal plants or herbs. A plot of ground, whose surface is not broken or rendered uneven by the presence of holes, ditches, gravel and stones, nor is loose in its character, and which is not disfigured by ant-hills, nor used for the purposes of a cremation or execution ground, and which does not occupy the site of a holy temple, is favourable for the growth of medicinal herbs. A ground which possesses a soil which is glossy, firm, steady, black, yellowish or red and does not contain any sand, potash or any other alkaline substance, and is favourable to the germination of plants and easily pervious to the roots of plants growing thereon, and which is supplied with the necessary moisture from a close or adjacent stream or reservoir of water, is recommended for the growth of medicinal plants and herbs. Plants should be regarded as partaking of the virtues of the ground they grow upon. A plant, growing in such a commendable site, should be examined as to its being infested with worms or insects, or as to its being anywise infected with poison, or cut with an arm, or affected by winds, atmospheric heat, or an animal's body. It should be culled or uprooted in the event of it being found sound, healthy, deep-rooted, full-bodied, and of matured sap...

"A plot of ground with a pebbly, steady, heavy, dusky or dark coloured soil, and which conduces to the growth of large trees,

and yields rich harvests of corn, should be regarded as permeated with the specific virtues of essential earth-matter (*svaguṇa-bhūyiṣṭha,* literally earth abounding in the specific qualities of itself).

"A ground having a cool, glossy, white-coloured soil, which is adjacent to water, and whose surface is covered with a lavish growth of glossy weeds and luscious shady trees, should be considered as characterised by the essential properties of water (*ambuguṇa-bhūyiṣṭha,* literally soil abounding in the specific qualities of matter in water-form).

"A ground having a gravelly soil of varied colours, and which contributes only to the germination of scanty and yellowish sprouts, should be looked upon as permeated with the essential attributes of fire (*agniguṇa-bhūyiṣṭha,* literally soil abounding in the specific qualities of matter in fire-form).

"A ground with an ash-coloured or ass-coloured (grey) soil, and on which withered looking, sapless, large-holed trees of stunted growth, somehow eke out a miserable existence, should be considered as being controlled by the specific properties of air (*anilaguṇa-bhūyiṣṭha,* literally soil abounding in the specific qualities of matter in air-form) ; while the one having a soft, level surface with large trees and lofty hills cropping up at intervals thereon, and which is covered with growths of weeds and under-shrubs, and is endued with a dark soil, kept moist and sappy by the percolation of invisible (subterranean) water, should be looked upon as permeated with the essential properties of sky (*ākāśaguṇa-bhūyiṣṭha,* literally soil abounding in the specific properties of matter in *ākāśa*-form)...

"Herbs of purgative properties, which are grown on a soil permeated with the specific virtues of water or earth matter, should be culled as the most effective of their kind. Similarly, harbs of emetic virtues should be culled from a ground permeated with the essential virtues of fire, sky *ākāśa* and air.

"Herbs exercising both purgative and emetic virtues should be culled from ground exhibiting features common to both the two aforesaid classes of soil. Similarly herbs possessed of soothing properties (*saṃśamana* : herbs or drugs, which in virtue of their own essential properties soothe or subdue a

disease without eliminating the morbid matters or without exercising any emetic or purgative action) are found to exert a stronger action in the event of their being reared on a soil permeated with the essential properties of sky (*ākāśa*).
"All medical herbs and substances should be used as fresh as possible, excepting Pippali, Viḍaṅga, *madhu* (honey), *guḍa* (molasses) and *ghṛta* (clarified butter) (which should be used in a matured condition, i.e. not before a year). The milky juice or sap of a medicinal tree or plant should be regarded as strong and active under all circumstances. Herbs and drugs, that had been culled or collected within the year, might be taken and used in making up a medicinal recipe in a case where fresh ones would not be available.
"Medicinal herbs and plants should be recognised and identified with the help of cowherds, hermits, huntsmen, forest-dwellers, and those who cull the fruits and edible roots of the forest. No definite time can be laid down for the culling of the leaves and roots of medicinal plants, etc., such as are used in compounding the recipe, which is called the *patra-lavanam*, and which covers, within its therapeutic range, diseases which are peculiar to the entire organism.
"As soil admits of being divided into six different classes according to its smell, colour, taste, etc., so the sap of a medicinal plant may assume any of the six different tastes through its contact with the peculiar properties of the soil it grows on. Tastes such as sweet, etc., remain latent in water, which imparts them to the soil in a latent or perceptible condition.
"A plot of ground, exhibiting traits peculiar to all the five fundamental material principles (such as the earth, water, fire, etc.) is said to be possessed of a soil of general character (*sādhāraṇī bhūmi*) and medicinal plants and herbs partake of the specific virtues of the soil they grow up."[121]

Thus a physician, as an active herb-collector himself, has also to acquire knowledge of soil-science, and this for the simple reason that the qualities of the herbs are largely deter-

121. *Suśruta-saṃhitā* i.37.2-11. Tr B.

mined by the nature of the soil on which these grow. That this soil-science is discussed in the ancient medical compilations in terms of the theory of five forms of matter *(pañca-bhūta)* indicates nothing more than the simple historical fact that the pioneers of science are only beginning to understand the nature of matter. But it proves nothing against the significance of their profound realisation that medical knowledge requires to be enriched by various disciplines, inclusive for example of soil-science, which, in the ancient period, is yet to acquire the status of a separate specialisation.

The authors of Hippocratic corpus are deprived of this realisation, because their consciousness is determined by the structure of a society in which the actual work of herb-collection—like many other aspects of the physician's work—is relegated to a special class of manual workers, whose experience has nothing to contribute to the allegedly prestigious speculations of the leisured elites. It is thus not difficult to see why the content of such speculations should be increasingly emaciated and the medical discussions tend to degenerate into empty postulates, against which the author of the *Ancient Medicine* strongly protests. Significantly, the passage of the *Suśruta-saṃhitā* just quoted advises the doctors not only to be herb-collectors themselves but also to seek the active cooperation for the purpose of identifying the herbs of those who are best acquainted with these, but who—in the slave society of ancient Greece, as in the *varṇāśrama* model of ancient India—are supposed to be intrinsically inferior human beings, like the cowherds, hunters and other jungle peoples. Thus, what infuses vitality to the Āyurvedic theory in its creative period is its bond with manual work, or, in the words of Farrington, the head being enriched by the working hand.

We shall mention here another example. Farrington observes, "the word 'surgery' is, of course, simply the modern form of the Greek *cheirourgia,* which means manual operation."[122] Accordingly, as Farrington adds, the author of the *Ancient Medicine* lays special emphasis on the view that "the true doctor is a *cheiro-*

122. Farrington HHAG 29.

technes and a *demiourgos* ; that is to say a manual worker and public servant."[123] But the prejudices of a slave-owning aristocracy do not allow the doctors and surgeons to take legitimate pride in such a role. We have already seen how this results in the arbitrariness of the physician's prescriptions. We shall now see how the same prejudices eventually destroy the ancient tradition of surgery and anatomical studies, though it takes perhaps a few more centuries for the full horror of this destruction to reach its final form. We are indebted to no less a scientist than Vesalius for a vivid description of the situation that ultimately results. Here are his observations as translated by Farrington : "When the whole conduct of manual operations was entrusted to barbers, not only did doctors lose the true knowledge of the viscera but the practice of dissection soon died out, doubtless for the reason that the doctors did not attempt to operate, while those to whom the manual skill was resigned were too ignorant to read the writings of the teachers of anatomy. But it is utterly impossible that this class of men should preserve for us a difficult art which they have learnt only mechanically. And equally inevitably this deplorable dismemberment of the art of healing has introduced into our schools the detestable procedure now in vogue, that one man should carry out the dissection of the human body and another give the description of the parts. The latter is perched up aloft in a pulpit like a jackdaw and with a notable air of disdain he drones out information about facts which he has never approached at first hand but which he has committed to memory from the books of others, or of which he has a description before his eyes. The dissector, who is ignorant of languages, is unable to explain the dissection to the class and botches the demonstration which ought to follow the instructions of the physician, while the physician never applies his hand to the task but contemptuously steers the ship out of the manual, as the saying goes. Thus everything is wrongly taught, days are wasted in absurd questions, and in the confusion less is shown to the class than a butcher in his stall could teach a doctor."[124]

123. *Ib.* 48. 124. Quoted by Farrington HHAG 32-3.

Such then is the ultimate disaster to surgery and anatomy caused by the social prejudices against manual labour or against the working hand. "Nor," comments Farrington, "indeed, is the use of the hand confined to surgery. The hand also has its part to play in the preparation of food and in the compounding of drugs. Thus, if the hand is despised, every part of medicine suffers."[125] The beginning of the process of which all this is the ultimate result is to be traced to the fifth century B.C., when the medical writings, deprived of scientific content, are left with some kind of compensatory delusion of lofty speculations easily tending to become sheer empty postulates. The more conscientious scientists protest against this no doubt ; but the way in which the general drift of the slave-society corrodes and destroys the science-consciousness with its contempt for the working hand is far too strong to be effectively resisted by such stray protests.

In the creative period of Āyurveda, however, the attitude to the working hands is quite different. The *Caraka-saṃhitā* emphasises in various ways their importance for the succsesful physician. The text says that one of the essential qualities of a good physician is that he must have deft hands—*jitahasta*. Significantly, this alone is not enough for medical purposes. The good physician is required to have many more qualities, inclusive of course of a sound theoretical knowledge of the medical science. Describing the accomplishments of the model physician[126] as well as of the ideal teacher of medicine[127] the text repeats practically the same passage. We quote here the second version :

"The teacher selected should be one with adequate knowledge of the medical texts, a wide experience of the actions of drugs, skilful, upright, clean, with deft hands, well-equipped with the medical paraphernalia, possessed of all the sense-organs, having knowledge of nature and the capacity for rational application, possessing insight into medical science, free from arrogance, envy and anger, capable of withstanding great strain, is affectionately disposed towards the students as well as accomplished

125. *Ib.* 31. 126. *Caraka-saṃhitā* i.29.7. 127. *Ib.* iii.8.4.

in the technique of communication" : *paryavadāta-śrutaṃ paridṛṣṭakarmāṇaṃ dakṣaṃ dakṣiṇaṃ śuciṃ jitahastam upakaraṇavantaṃ sarvendriyopapannaṃ prakṛtijñaṃ pratipattijñam anupaskṛtavidyam anahaṃkṛtm anasūyakam akopanaṃ kleśakṣamaṃ śiṣyavatsalam adhyāpakaṃ jñāpana-samarthaṃ ca iti.*[128]

Among other things, what is magnificently emphasised here is the importance of the unity of theory and practice from the medical standpoint—a theme to which the *Caraka-saṃhitā* repeatedly returns.[129] What saves the medical theories of Āyurveda from degenerating into empty postulates of the metaphysicians is thus not difficult to see.

The way in which the *Suśruta-saṃhitā* wants to glorify the working hand is as simple as it is eminently logical. As a work with primary importance attached to surgery, it feels the obvious need of discussing the nature and number of the surgical instruments. While introducing the discussion, however, the text insists that notwithstanding their importance, the working hand of the surgeon is the most important of them all. As the text puts it,

"The number of surgical instruments is one hundred and one (perhaps in the figurative sense of a very large number). But the hand itself is to be viewed as the most important of the instruments. Why is it so ? Because all these instruments are ineffectual without the hand and only as subjected to the hand the instruments acquire their function" : *yantra-śatam ekottaram ; atra hastam eva pradhānatamaṃ yantrāṇām avagaccha. kiṃ kāraṇam ? yasmāt hastād ṛte yantrāṇām apravṛttiḥ eva, tat-adhīnatvāt yantra-karmaṇām.*[130]

Such a simple truth would have surely escaped the writers of the Hippocratic collection, when, with the growth of slavery, the working hand is shorn of all social prestige.[131] But things are

128. *Ib.* 129. *Ib.* i.1.134-5 ; i.4.29 ; i.9.6 ; i.9.18 ; i.11.53 ; i.15.3 ; etc. 130. *Suśruta-saṃhitā* i.7.1 KSS-ed. 131. Engels DN 180 : "the more modest productions of the working hand retreated into the background, the more so since the mind that planned the labour was able...to have the labour that had been planned carried out by other hands than its own."

different in the ancient tradition of Āyurveda. Far from rationalising the contempt for the working hand, surgeons of the *Suśruta-saṃhitā* are concerned with another serious question. Admitting that the surgeon's hand is his supremely important instrument, the fact remains that he is also required to add to its natural capacity, or, as Gordon Childe puts it, add extracorporeal organs to this corporeal one.[132] In other words, howsoever skilful the hand may be, it becomes much more effective only by holding the surgical tools. Wherefrom then are these tools to be acquired ? The pioneers of surgery hope to get their basic models suggested by the special armoury with which the various animals are naturally endowed. Thus, enumerating the main types of the surgical instruments, the *Suśruta-saṃhitā* says :

"Surgical appliances may be divided into six different groups or types, such as the *svastika*, the *sandaṃśa*, *tāla*, *nāḍī*, *śalākā*, besides those that are called the minor or accessory apppliances (*upayantra*-s).

"The *svāstika* instruments (forceps), in their turn, are divided into twentyfour sub-classes ; the *sandaṃśa* instruments (tongs) into two ; the *tāla-yantra*-s into two ; the *nāḍī-yantra*-s (tubular) into twenty ; and the *śalākā*-s (probing instruments) into twenty-eight ; while the *upa-yantra*-s admit of being divided into twenty-five different types. These instruments are all made of iron, which may be substituted for any other similar or suitable substance where iron would be unavailable.

"The mouths of these appliances are usually made to resemble those of birds and beasts and hence they should be made to resemble the mouths of some particular animal in shape, or otherwise, according to the advice of old and experienced physicians (surgeons), or according to the directions as laid down in the *śāstra*-s (medical books of recognised authority), or according to the exigencies of the case, or after the shape and structure of other appliances used on similar occasions.

"Appliances should be made neither too large nor too small,

132. Childe WHH 8.

and their mouths or edges should be made sharp and keen. They should be made with a special eye as to strength and steadiness, and they should be provided with convenient handles."[133]

Such then are the general requirements of the surgeons. To add stature to their skilled hand, they are in need of various instruments, made preferably of iron and modelled on the natural armoury of the beasts and birds, with certain specialities added to those. However, all this cannot but raise another question. How to get these general requirements translated into the concrete surgical instruments ? Who, in other words, are actually to fashion these surgical instruments ? Evidently, there are two possible answers to this. Either the surgeons themselves should do the work or they should get it done by others. The *Suśruta-saṃhitā* is too realistic to suggest the former : the surgeons themselves are already confronted with a vast range of theoretical and practical problems, and hence it is no use advising that they should acquire also the labour specialisation necessary for instrument making. What is sensible therefore is to suggest that the surgeons should approach for this purpose those that have already this labour specialisation, seek their active cooperation and thus get the surgical instruments prepared by them. Such persons are the blacksmiths, who, by virtue of their specialised skill, should be able to prepare the instruments according to the specifications suggested by the surgeons. This is precisely what the *Suśruta-saṃhitā* advises.. It says,

"It is imperative for the intelligent doctor to get his surgical instruments fashioned by the skilled and experienced blacksmith, using pure, strong and tempered iron."

śastrāṇi etāni matimān śuddha-śaikyāyasāni tu /
kārayet karaṇaprāptaṃ karmāraṃ karmakovidam //[134]

Thus, only by seeking the active cooperation of the blacksmith can the surgeon hope to have effective surgical instruments essential to add to the skill of his own working hand.

With the advance of slavery in ancient Greece, we do not expect the doctor to retain the realisation of this elmentary

133. *Suśruta-saṃhitā* i.7.3-6. Tr B. 134. *Ib.* i.8.19. KSS-ed.

truth. But the more important point for our understanding of the history of ancient Indian medicine is to note that we do not expect such a realisation to survive also in ancient India, specially in the strongholds of the *varṇāśrama* norm, where the social prejudice against manual operation—and therefore also against the craftsmen in general—asserts itself in its own way. Along with the blacksmith, on whose active cooperation the surgeons so basically depend, the surgeons themselves are declared as impure persons by the spokesmen of the *varṇāśrama* norm. Here is just one example. Food given by a physician, says Manu, is as filthy as food given by a blacksmith.[135] We shall see many more examples like this. For the present the point is that when such a view is sought to be enforced as the law of the land, medical science cannot but be very seriously threatened.

What endangers and eventually destroys the medical tradition in ancient Greece is thus not something basically different from what ultimately stifles it in ancient India. It is the general corruption of thought caused by a corrupt attitude to manual work generated by a society split into a leisured minority and a toiling but underprivileged majority. The details in which this split society takes shape in the two areas—the details, in other words, of Greek slavery and *varṇāśrama* hierarchy—are different no doubt. But not their basic nature, and therefore not also the general drift of their ideological consequences. These consequences are the hostilities to science-consciousness demanded by the more urgent need for the counter-ideology required to keep the working masses under control. We shall later return to discuss the nature of this counter-ideology, as we find it specially in ancient India. For the present we are trying to discuss another point. It is concerned with the difference between the medical literature of ancient Greece and India as these reach us.

We do not have more than a few stray glimpses of the grand promises of science in the Hippocratic corpus. The author of the *Ancient Medicine*, in his great anxiety to defend the tradition, is left with comparatively less scope to describe it. Others

135. *Manu* iv. 212 & 215.

among the significant scientists whose writings find place in the Hippocratic corpus are the authors of small tracts like *Epidemics I and III*, *Regimen in Acute Diseases*, *The Sacred Disease*, etc. Though magnificently defending rationalism and the importance of direct observation of natural phenomena against supernaturalism and mystification, even these tracts retain for us little material for understanding any coherent and positive view, which may be taken as the medical theory of ancient Greece. The major parts of what come down to us as the medical writings of ancient Greece are not only appallingly thin in therapeutic content but are moreover dominated by the empty speculations of the leisured elites—speculations in which even the medical or near-medical concepts of "humours", "coction", "crisis" etc., tend on the whole to lose their scientific contents. In short, Greek medicine as recorded in the Hippocratic corpus is already largely devastated by the metaphysicians.

The form in which the medical writings of ancient India reach us is different. The *Caraka-saṃhitā* and *Suśruta-saṃhitā* are indeed full of tedious digressions into alien metaphysical speculations. The way in which these works concede to the counter-ideology is not to be overlooked. They show very frequently the tendency to abject submission to the law-giver's demands, howsoever alien these may be to the standpoint of science proper. All these are there in the enormous medical compilations of ancient India. But these are on the whole of the nature of intellectual debris allowed loosely to accumulate in the compilations. Such debris can be removed and, when removed, the same works enable us to see something magnificent from the scientific viewpoint surviving under these. It is the hard core of medical theory patiently worked out on the basis of experience and reason perhaps by generations of doctors. How much of open defiance of the law-givers and of other spokesmen of the hierarchical norm was required by them for the purpose of working out this medical theory is not known to us. What is known, however, is that this medical theory has to question many major features of the officially boosted ideology. Hence its preservation specially after the growing strength of the *varṇāśrama* society must have been formidably difficult. The

accumulation of the intellectual debris in the extant medical compilations is thus not so bewildering as it may at first appear. These are needed to conceal from the law-givers and others the hard core of medical science flouting the law-givers' demands on many major issues.

In the context of our present discussion the more important question is : What is it that infuses the peculiar vitality of science-consciousness to the hard core of medical theory surviving in the medical compilations under the cover of the alien ideas and attitudes loosely superimposed on these ? We have seen the answer to this. This hard core of medical science does not segregate theory from practice, knowledge from intervention. The ancient doctors are fully conscious of the role of the working hand, which they consciously glorify. This not only enriches the actual therapeutic content of ancient Indian medicine but moreover enriches its theoretical aspect. In other words, in the hard scientific core of Āyurveda also we come across a good deal of enthusiasm for theory. But it is theory determined basically by the needs of medical practice and the validity of which is required to be tested by actual therapeutic success. Unlike most of the theoretical discussions in the Hippocratic tracts, the genuine Āyurvedic theory is not the outcome of pure contemplation of the leisured elites but of the zeal to interpret a vast amount of empirical data by the working doctors interested in knowing nature for the purpose of mastering it.

16. PERPETUAL FLUX

With the above clarification, let us return to the main theme of our persent discussion, namely the theoretical achievements of ancient Indian medicine.

Its starting point, as we have already seen, is the simple observation of how the human body is being affected in various ways by all sorts of natural substances consumed as food and drink. This is interpreted by the physicians as the interac-

tion between natural matter and body-matter. We now pass on to see what follows from this understanding.

Since the absorption of natural or environmental matter by body-matter is a ceaseless process for the living beings—since, in other words, the fact of nutrition shows the perpetual replacement of the material constituents of the body—the body itself and everything about it is viewed in Āyurveda as being involved in the process of ceaseless flux. For the ancient physicians this means that the old body is being constantly replaced by a new one and the apparent impression of the persistence of the same body is due only to the similarity between the old body and the new body. As the *Caraka-saṃhitā* says,

"Nothing about the body remains the same. Everything in it is in a state of ceaseless change. Although in fact the body is produced anew every moment, the similarity between the old body and the new body gives the apparent impression of the persistence of the same body."

na te tat-sādṛśāḥ tu anye pāramparya-samutthitāḥ /
sārūpyāt ye ta eveti nirdiśyante navā navāḥ //[136]

But man is viewed as a microcosm—an epitome of nature. If, on the one hand, it means that without the knowledge of nature the knowledge of man remains incomplete, the same formulation on the other hand implies that what is true of man is also true of nature as a whole. Thus the view of man as ceaselessly changing leads the physicians to develop the same or a similar view of nature. Everything in nature is involved in the eternal process of coming into being and of passing out of existence. In expressing this view, the ancient physicians want specially to deny any external agency accounting for the cessation of things that come into being and they propose to explain everything on the model of "time" (*kāla*), the essence of which is ceaseless change. Says the *Caraka-saṃhitā*,

"Just as there is no external cause for the destruction of time, which, by nature, is perpetual flux, so also no (external) cause is known for the destruction of things, because of the simple

136. *Caraka-saṃhitā* iv.1.46.

reason that no such cause exists. Being evanescent by nature, things cease to be just as they come into being."

na nāśa-kāraṇa-abhāvāt bhāvānāṃ nāśa-kāraṇam /
jñāyate nityagasya iva kālasya atyaya-kāraṇam //
śīghragatvāt yathā bhūtaḥ tathā bhāvo vipadyate //[137]

Understandably, the phenomenon called life—in which the physicians are so keenly interested—cannot be an exception to this universal process of coming into being and passing out of existence. Hence it is only natural that the physicians should want us to note the essential transitoriness of life. In their view, life is nothing but the right combination of certain material substances, which they call the desirable kind of food materials. The ceaseless process of further absorption of food materials by the living beings makes them perpetually changing. Because of the laws inherent in nature, however, this process of ceaseless change in the matter-constituents of the body reaches a stage where the body-form itself disintegrates and its matter-constituents start reverting back to their original or natural state. Life, which comes into being, thus ceases to be. This is ordinarily called death or *maraṇa.* Since, however, in the physicians' view this is nothing but the return of body-matter to matter in its environmental or natural condition, one of the synonyms they propose for *maraṇa* is *svabhāva*, by which is meant "nature", or perhaps more appropriately, the "law of nature". Significantly, another synonym proposed for the same is *anityatā* or impermanence. Referring to the symptoms of the approaching end of a man's life, the *Caraka-saṃhitā* says,

"From these it can be predicted that he would revert back to nature during such and such moment and such and such hour. ... Here (in *āyurveda)* 'nature' *(svabhāva)*, 'end of activities *(pravṛtteḥ uparamaḥ)*, 'death' *(maraṇa)*, 'impermanence' *(anityatā)* and 'cessation' *(nirodha)* are all synonymous terms."[138]

All this gives us an idea of another notable feature of the

137. *Ib.* i.16.32-3. 138. *Ib.* i.30.27. Interestingly, this view seems to be at the basis of the commonly used Sanskrit word for death, viz. *pañcatā* (Monier-Williams 576), lit. the return to the five forms of matter.

general theoretical position which the ancient physicians try to work out. This, along with their conviction that from the medical viewpoint, at any rate, only the materialist outlook has relevance, gives us the glimpse of a world-view, magnificent for its ancient context. In this world-view, everything in the universe is made of matter *(bhūta)* and everything is in a state of perpetual flux *(nityaga)*. Under certain favourable but essentially natural conditions, organised matter assumes the form of what is called "life" or *prāṇa* of the living creatures. These living creatures, constantly absorbing environmental matter for their mode of existence, which is medically called nutrition, are themselves involved in the process of ceaseless change. But life, which under certain conditions comes into being, also passes out of existence because of the laws inherent in nature, when matter constituting the organism reverts back to its natural state, i.e. to the state of environmental matter from which life originates and which sustains life, subjecting it to the process of constant change. And this is death, alternatively called 'nature' or 'impermanence'.

The general importance in world philosophy of the view just sketched—of understanding man and nature in terms of matter involved in the process of ceaseless change—is wellknown. So also are its radical implications specially in the ancient Indian context, where the law-givers insist that only the view of the spirit and the laws of the "unseen" effects of actions performed in past lives deserve recognition. It is therefore not for nothing that the Indian law-givers are angry with the physicians.

17. SCIENCE AND PHILOSOPHY : GREECE AND INDIA

What we have just discussed cannot but be reminiscent of a brief work surviving in the Hippocratic corpus with the title *Nutriment*. In this also, the basic fact of nutrition is somehow sought to be related to the general view of perpetual change. At the same time, where this work differs from the medical literature of ancient India is not to be overlooked. The source-books of

Āyurveda leave us with no doubt that the view of perpetual flux develops among the working doctors as part of their theoretical equipment, i. e. as required by their essentially practical purposes. But the same thing cannot be said of the Hippocratic tract *Nutriment*. The presumption, on the contrary, is that the view of matter in ceaseless change is originally developed in ancient Greece not by the practising physicians but by the early "nature philosophers," though among them Heraclitus gives it the most classical form.[139] But the Hippocratic tract *Nutriment* is quite different. Modern scholars do not rule out the possibility of its being the product of some unknown philosopher—a mediocre follower of Heraclitus—who wanted somehow to graft the philosophy of Heraclitus on medical matters, though without effecting any real coherence between philosophy and science. As W.H.S. Jones observes,

"Heraclitus held that matter is, like a stream, in a state of continuous change. His system contained other hypotheses (some perhaps, e. g. the union of opposites, being more fundamental), but this was the most fruitful, and the one which commended itself most to his followers and to his successors.

"A later Heraclitean, whether a professional doctor or not is uncertain, applied the theory of perpetual change to the assimilation of food by a living organism, and *Nutriment* is the result. He has copied the aphoristic style and manner of his master, as well as the obscurity, with considerable success, and whole paragraphs might well be genuine fragments of Heraclitus."[140]

Whatever little meaning we can manage to read in it today seems to be devoid of any scientific interest. Here is just an example :

"xviii. Purging upward or downward, neither upward nor downward.

"xix. In nutriment purging excellent, in nutriment purging bad; bad or excellent according to circumstances.

"xx. Ulceration, burn-scab, blood, pus, lymph, leprosy, scurf,

139. Engels AD 34-5. 140. Jones i.337.

dandruff, scurvy, white leprosy, freckles, sometimes harm and sometimes help, and sometimes neither harm nor help.

"xxi. Nutriment not nutriment if it have not its power. Not nutriment nutriment if it can nourish. Nutriment in name, not in deed; nutriment in deed, not in name."[141]

These may be excellent examples of philosophical puzzles with which some leisured elites amuse themselves, but these can be of no use whatsoever either for the theory or practice of a serious doctor. Comments Jones,

"*Nutriment* is more important as a philosophical than as a medical document. The teaching of Heraclitus did not die out with his death; he had followers who emended and developed his theories, and one of these wrote *Nutriment* to bring a branch of physiology into the domain of philosophy. The tract is a striking *proof of the difficulty of uniting philosophy and science* and of pursuing the latter on the methods of the former."[142]

We have added emphasis to one of the observations above, because it is in need of degeneralisation. The Hippocratic tract *Nutriment*, as Jones very convincingly shows, is indicative of the failure of uniting science with philosophy. But this evidence can hardly prove the intrinsic incompatibility of the two. The special reason for the incompatibility in this particular tract is that there is very little of science in it and even this modicum is put at the mercy of a pre-conceived philosophy. Whatever little is actually conveyed by its deliberate use of obscure expressions and paradoxes about the facts of digestion and nutrition is too thin to justify the momentous theoretical generalisation concerning matter in ceaseless motion or change. In this work, in other words, the theoretical generalisation does not grow out of a serious preoccupation with the observed facts of nutrition. It is borrowed from elsewhere and is arbitrarily imposed on physiology. Hence the difficulty of uniting science with philosophy is so glaring in this work.

But such a difficulty does not exist in the source-books of Indian medicine. In these, the ancient doctors appear to be very earnest about understanding the fact of nutrition, because

141. *Ib.* i.349. 142. *Ib.* i.340.

they feel that it is crucial for their therapeutic technique. This technique, as far as they can understand, consists mainly in prescribing the right kind of environmental matter in the natural substances for matter-readjustment within the body. Hence it is imperative for them to try to understand the process of the transformation of natural matter into body-matter, the essence of the phenomenon called nutrition. Not that they are historically in a position to understand this process beyond a certain early groping stage. The technological and other equipments necessary for a fuller understanding of the fact of nutrition do not exist for them. But that is a different point. Whatever progress they make towards this understanding enables them to realise the broad fact that the human body requires for its maintenance the ceaseless process of replacement of body-matter by environmental matter. This realisation leads them to their theoretical generalisation that the living body is involved in the process of ceaseless change. So must also be everything in nature, because everything in nature is made of the same stuff—the same matter—and subject to the same natural laws. The ancient Indian physicians thus do not try to force physiology into the mould of a pre-existing philosophy. They do not give the impression of arbitrarily uniting science with philosophy—an arbitrariness which Jones sees in the *Nutriment*. In Indian medicine, on the contrary, the effort to grasp the nature of a fundamental physiological phenomenon leads as a matter of course to a theoretical position, which, because of its generality, may as well be called a philosophical view.

This brings us back to the point we have already mentioned. A comparison of what survives as the Hippocratic corpus with the hard core of medical science in the source-books of Āyurveda shows an important difference between the two. The former frequently gives us the impression of medical science being invaded by philosophical ideas of non-medical origin—an invasion against which the author the *Ancient Medicine* passionately protests. Notwithstanding such protests, the medical literature of ancient Greece eventually suffers the fate of very large-scale invasion by philosophy of different sorts.

As Sigerist, referring to the theoretical writings in the Hippocratic collection, observes, "They are as different as possible in character and content."[143] "The Hippocratic collection," says Jones, "is a medley, with no inner bond of union except that all the works are written in the Ionic dialect and are connected more or less closely with medicine or one of its allied sciences. There are the widest possible divergences of style, and the sharpest possible contradictions in doctorine."[144]

The reason for this, given by Jones, is an external one : "The Hippocratic collection is a library, or rather, the remains of a library. What hypothesis is more probable than that it represents the library of the Hippocratic school at Cos ?"[145] But the hypothesis does not explain the problem we have been discussing. Why should there be so much of heterogeneous philosophical theories in these tracts and why should there be in these such an appalling lack of physiology and therapeutics ? Jones says, "The ancient biographies of Hippocrates relate a a fable that he destroyed the library of the Temple of Health at Cnidos (or, according to another from of the fable, at Cos) in order to enjoy a monopoly of the knowledge it contained."[146] Evidently, such fables do not grow out of nothing, specially about a name which ancient Greece wants to hold in very high esteem, as the greatest authority on medicine. Could it then be that the uncanny professional greed of some ancient doctor or doctors account for the loss of the more genuine medical literature of ancient Greece ? We shall have to return to this question while discussing humanism and medical science. For the present, the relation between science and philosophy.

Whether the genuine medical literature of ancient Greece actually suffered the fate just mentioned is no doubt conjectural. What is not conjectural, however, is that the tracts surviving for us as the only medical literature of ancient Greece contain much more philosophy than science, and, what is worse, the philosophies are usually unrelated to science. At least in a very

143. Sigerist ii.277.
144. Jones i.intro. p. xxviii.
145. *Ib.* i.intro. p. xxix.
146. *Ib.*

large number of these tracts, the conflict between philosophy and science is obvious.

But the source-books of Āyurveda give us the impression of a very wide range of general theoretical agreement among the ancient Indian doctors, which, as we have seen, are called the *sarva-tantra-siddhānta*-s by the *Caraka-saṃhita*.[147] This is the result of the conscious attempt at interpreting a vast amount of empirical data with the awareness of the parctical requirements of the physicians. Thus, instead of coercing science into some pre-existing theoretical mould, Āyurveda allows science to *develop a medically relevant philosophy*. The result is that while the Greek medical literature fails to resist the invasion of science by assorted and irrelevant philosophies, Āyurveda bequeaths to Indian philosophy certain highly significant positions.

The view we have been just discussing is an example of this. According to it, the human body—like everything else in nature—is involved in the process of ceaseless change. This seems to be one of the profoundest contributions of the ancient doctors to the general fund of Indian thought. It may be of interest to note how some of the later Indian philosophers inherit this basic idea and what crisis is created for their philosopoy when they mix it up with an empty postulate borrowed from some other quarter.

As just discussed, the view of human body as ceaselessly changing is arrived at by the ancient physicians from the simple observation of the fact of nutrition. Among the later and highly sophisticated exponents of the Nyāya-Vaiśeṣika philosophy, Jayanta Bhaṭṭa and Udayana repeat the view. Argues Jayanta Bhaṭṭa :

"That the body is ever-changing is conclusively proved by the fact of the digestion of food going to the maintenance of the body. Without admitting this (view of the body ceaselessly changing), there is no explanation for what happens to the food when it is digested, no explanation for the fattening of the body because of the consumption of milk-products, no explanation for the increased blood-supply in the body because of medicines

147. *Caraka-saṃhitā* iii.8.37.

containing gold etc. All these prove that the body is ever-changing. Is it not absurd to imagine that a body with lean limbs is identical with a body with stout and fat limbs ? "[148]

According to Jayanta Bhaṭṭa, all these conclusively prove that "from infancy to youth and from youth to old age, the body is always changing, i.e. is always a different one, like the ever-changing flow in a stream" (*śarīraṃ ca bālyādi-avasthā-bhedena bhinnam, ataḥ tasya nāśrayo bhavitum arhati, santānān-taravat*).[149] Such a view, Jayanta realises, is open to an obvious objection. "If the body of Devadatta as a boy is totally replaced by another body, namely that of Devadatta as a young man, how can we at all recognise the latter as : This is the same Devadatta that was once a boy ? " To this objection, Jayanta's answer is quite simple. "Such a fact of recognition is only an illusion due to the misleading suggestion of same similarity between the two. Just as the newly grown nail or hair may be wrongly imagined as the old nail or hair already cut off, so also the new body of the young man may be wrongly imagined as the same body of the boy, because of some similarity between the two."[150]

There can be no doubt that all this is taken verbatim from the ancient doctors, for whose therapeutic technique it is obligatory to take the keenest interest in the human body and its nutrition, and therefore also in the fact of its perpetual change. So also are the basic arguments of Udayana intended to prove the same view. Here is a brief summary of the elucidation of his arguments by Phaṇibhūṣaṇa Tarkavāgīśa :

"From the loss or gain in the body it is indisputably proved that the old body ceases to be and is replaced by a new body. Therefore, it is imperative for us to admit that the boyish body is different from the youthful body and the latter different from the aged body. Because of the differences in the quantities of body-material, these bodies can by no means be viewed as identical. Differences in quantities are surely indicative of differences in substances. The daily change of this body is proved by the daily change of body-material."[151]

148. Jayanta Bhaṭṭa NM ii. 11. 149. *Ib.* ii.10. 150. *Ib.* ii.11.
151, Tarkavāgīśa ND (Bengali) iii.273.

This, then, is one of the very significant ideas taken by the later Nyāya-Vaiśeṣikas from Indian medicine. We shall later see more examples of what this philosophy owes to the theoretical achievements of the ancient physicians. For the present, however, we want to note another point. The view of the body as ever-changing enables the physicians to solve their therapeutic problem, for they think that this change can be understood and therefore brought under control. But the later Nyāya-Vaiśeṣikas, as philosophers, are cut off from the mainstream of medical science. They moreover find themselves placed in a political climate in which the law-givers insist that a view of the soul over and above the body is the minimum mark of philosophical respectability. Such a view of the soul can have nothing to do with the main preoccupation of the physicians, who as we have seen, view *puruṣa* or man exclusively as the body. However, perhaps largely because of the legal pressure on them, the later Nyāya-Vaiśeṣikas try not only to relate the physician's view of the perpetually changing body to the concept of a changeless soul, but moreover to prove the latter on the evidence of the former. They argue that since the body is perpetually changing—since, for example, the body as a boy is totally replaced by the body as a young man—something experienced by the former body cannot be recollected by the latter body, inasmuch as it is impossible for one to recollect the experience of another. But recollection is a fact, which it is impossible to explain on the admission of the body alone. To explain this fact, therefore, it is necessary to postulate a permanent agent different from the ever-changing body. This agent, according to the later Nyāya-Vaiśeṣikas, must be the immutable "soul" : though quite different from the body, this soul is somehow or other temporarily connected with the body.

I have elsewhere gone into some details of this argument, wanting to show that it rests on an inadequate understanding of the body itself, inclusive of the physical basis of the phenomenon called memory—a limitation which is inevitable for the historical context to which these philosophers belong. It is now being shown by centuries of patient research that the fact

of memory is not so mysterious as to overwhelm the philosophers to the extent of submitting to the legally sanctified ancient superstition of an extra-corporeal soul, because the more this mystery is being penetrated by contemporary science the better it is realised that deeper knowledge of physiological processes alone holds the prospect of its right understanding, relegating the concept of an extra-corporeal soul to the limbo of redundant hypotheses.[152]

For the present, we want to note another point. It is the difficulty created by these later philosophers themselves when they try to substantiate their postulate of the soul on the evidence of the scientific data concerning the body. The soul allegedly proved by them remains in their philosophy as some kind of a quaint dummy for it. If viewed as something genuinely extra-corporeal, the least that is expected of the soul is the discharge of the truly spiritual or psychical functions and be itself spiritual in essence. But in the Nyāya-Vaiśeṣika philosopy, the soul is something peculiarly, unconscious—as unconscious as a lump of clay or stone *(śilā-śakala-kalpa)*[153]. It acquires spiritual qualities only when aided by certain other unconscious entities, most of which are frankly material ! Thus, though strenuously conceived as extra-corporeal or immaterial, there is no question for such a soul discharging real spiritual functions or to establish its claim of being itself spiritual. All this leaves even the orthodox scholar like Hiriyanna to wonder, why should a philosophy with such a peculiar view of the soul at all try to differentiate its own position from that of the plain-speaking materialists, when this essentially unconscious entity called soul by courtesy as it were is precariously near the materialist position identifying the soul with the body ! As he puts it, "The position is scarcely distinguishable from that of the Cārvākas."[154]

Such then is the anomaly created in the Nyāya-Vaiśeṣika philosophy when it tries to use something clearly inherited from medical science to serve the purpose of a metaphysical postulate

152. Chattopadhyaya WLWD 462ff. 153. *Ib.* 438.
154. Hiriyanna 26On.

borrowed from somewhere else. Science becomes incompatible with philosophy and philosophy itself takes a queer turn. But this does not mean that the theoretical positions evolved by the physicians have necessarily a similar fate in the subsequent history of Indian thought. But more of this later.

18. THEORY AND THERAPEUTIC TECHNIQUE

According to the basic theoretical generalisation of Āyurveda, everything is made of matter and everything is involved in the ceaseless process of coming into being and passing out of existence. From the medical viewpoint, all this raises a crucial question. Where and how, in this general scheme of things, do the doctors come in ? They are not philosophers. Their purpose is to help maintain health and cure diseases. With all its enthusiasm for discussing questions of general theoretical interest, the *Caraka-saṃhitā* wants to be quite categorical about this role of the physicians and their science. Explaining the viewpoint of Āyurveda, it says,

"Its purpose is to maintain the health of the healthy persons and to remove disorders in the ailing" : *prayojanaṃ ca asya svasthasya svāsthya-rakṣaṇam ; āturasya vikāra-praśamanaṃ ca.*[155]

If therefore the physicians feel the need for some general theoretical understanding as well, it is presumably considered essential for their basic therapeutic purpose.

What then is the relevance of their theory for medical practice ?

From the physician's viewpoint, the answer to this is not difficult to see. To ensure health or cure sickness, it is first of all necessary to understand what these mean. Serious preoccupation with this problem leads them to the view of the interaction between environmental matter and body-matter, because, according to their understanding, everything about the body—

155. *Caraka-saṃhitā* i.30.26.

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inclusive of health and disease—depends on it. Environmental matter existing in the forms of different natural substances goes to the making of the body-constituents, called *dhātu*-s. But there is a right way as well as a wrong way in which this transformation can take place. Environmental matter consumed in the right form, in right proportion and right combination, results in what is supposed to be the proper balance or harmony or equilibrium of the body-elements. Health means nothing but this balance. Disease again is the loss of this balance resulting from the wrong way of absorbing environmental matter, i.e. either the over-absorption or under-absorption of a specific form of it.

From this understanding of the body and the causes of its diseases, immediately follows the main point of the therapeutic technique. To put in very general terms, it is matter-readjustment within the body aiming at the restoration of the balance of the body-elements. The *Caraka-saṃhitā* wants repeatedly to emphasise this point. Thus :

"Here (in medical science), the effect aimed at is the balance of the body-elements. The purpose of the present work is to instruct on the effective measures ensuring the balance of the body-elements" : *kāryaṃ dhātu-sāmyam iha ucyate/dhātu-sāmya-kriyā ca uktā tantrasya asya prayojanam.*[156]

Again :

"By treatment of diseases is meant those operations that lead to the balance of the body-elements. This is to be understood as the function of the physician. What the physician does is done with the purpose of not allowing the loss of balance of the body-elements or of ensuring the continuation of this balance."

yābhiḥ kriyābhiḥ jāyante śarīre dhātavaḥ samāḥ
sā cikitsā vikārāṇāṃ, karma tat bhiṣajāṃ smṛtam //
kathaṃ śarīre dhātūnāṃ vaiṣamyaṃ na bhavet iti /
samānaṃ ca anubandhaḥ syāt ityarthaṃ kriyate kriyā //[157]

But how is the physician expected to ensure the balance of the body-elements ? From the viewpoint of Āyurveda, there

156. *Ib.* i.1 53. 157. *Ib.* i.16.34-5.

is only one answer to this. Since the body-elements are nothing but transformations of various natural substances, the only way of ensuring their balance is the regulation of the natural substances to be consumed. As our text puts this,

"By avoiding things that cause the loss of the balance and by consuming things that favour it, the discordance of the body-elements is not allowed to persist and their concordance brought into being."

tyāgāt viṣama-hetūnāṃ samānāṃ ca upasevanāt /
viṣamā na anubadhnanti jāyate dhātavaḥ samāḥ //[158]

But everything in nature as well as in man is made of matter in its five forms. Hence the therapeutic principle, put in more general terms, means that if there is an excess of body-matter in some particular form resulting from the wrong absorption of environmental matter, the physician has to prescribe as diet or drug the kind of substances that have the efficacy of bringing down this particular form of body-matter to its normal level, i.e. to the level at which it retains balance with body-matter in other forms. Secondly, if there is diminution of body-matter in some specific form resulting from the lack of absorption or inadequate absorption of environmental matter in this form, the physician has to prescribe as drug or diet certain specific substances which, when transformed within the body, raises the affected body-matter to its required level. Thus, another way of viewing the essential point of the therapeutic technique is to call it the "use of the opposite", i.e. the use of substances having "opposite" effects on the body-matter aggravated or diminished. We quote here two examples of how this is formulated in the *Caraka-saṃhitā.*

"By treating disorders of the body with what are opposite to their origin, we restore the normal condition of the patient. Thus administered by us, the drugs show themselves to the best of their glory" : *vyādhīn mūla-viparyayena upacarantaḥ samyak prakṛtau sthāpayāmaḥ ; teṣāṃ naḥ tathā kurvatām ayaṃ bheṣaja-samudāyaḥ kāntatamaḥ bhavati.*[159]

Again,

158. *Ib.* i.16.36. 159. *Ib.* i 10.6.

"Diseases that are curable are cured by drugs (substances) with antagonistic qualities, administered with due consideration of place (*deśa*, i.e. the environmental condition of the patient), dose (*mātrā*) and time (*kāla* i.e. seasonal variation or variation of climatic conditions)."

viparītaguṇaiḥ deśa-mātrā-kāla-upapāditaiḥ |
bheṣajaiḥ vinivartante vikārāḥ sādhyasammatāḥ ||[160]

19. SĀMĀNYA AND VIŚEṢA

This expression for the therapeutic technique, namely "the use of the opposite", is in need of some explanation. It means no doubt that the physician's task is to increase what has become diminished and to diminish what has become excessive among the body-elements. Concretely speaking, however, the only way open before him to try both the procedures is to prescribe certain substances as diet or drug. From the standpoint of their effects on the body-elements, therefore, the substances prescribed may also be viewed as having twofold effects. Certain substances have the inherent nature of increasing some particular body-element, just as certain other substances have the inherent nature of decreasing some particular body-element. In relation to their effects on body-elements, the substances are thus to be classified under two heads, namely "increasers" of body-elements and "decreasers" of body-elements. This way of looking at the substances leads the physicians to develop two key concepts. They call these *sāmānya* and *viśeṣa*.

Let us first see what these mean in the medical texts and why, as conceptual tools, these are considered crucial by the physicians. The *Caraka-saṃhitā* introduces the concepts as follows :

"That which causes the increase of everything (of the same nature) at all times is called *sāmānya*, while by *viśeṣa* is meant

160. *Ib.* i.1.62.

the cause of the decrease. Thus the tendencies of the two (for increasing and decreasing the body-elements) are : *Sāmānya* is that which combines, *viśeṣa* is that which disunites. Hence, *sāmānya* is that which is similar, and *viśeṣa* is its opposite."

sarvadā sarvabhāvānāṃ samānyaṃ vṛddhikāraṇam |
hrāsa-hetuḥ viśeṣaḥ ca, pravṛttiḥ ubhayasya tu ||
sāmānyam ekatva-karam, viśeṣaḥ tu pṛthaktva-kṛt |
tulyārthatā hi sāmānyaṃ, viśeṣaḥ tu viparyayaḥ ||[161]

It is well-known that these two concepts acquire great importance in the Vaiśeṣika philosophy. But it needs to be noted that in the *Caraka-saṃhitā*, *sāmānya* and *viśeṣa* mean something quite different from what these mean in the philosophical literature. We quote S.N. Dasgupta, who makes this difference very clear :

"In the Vaiśeṣika system the word *sāmānya* means a class concept ; but here (in medicine) it means the concrete things which have similar constituents or characteristics ; and *viśeṣa*, which means in the Vaiśeṣika ultimate specific properties differentiating one atom from another, means in Caraka concrete things which have dissimilar and opposite constituents or characteristics. *Sāmānya* and *viśeṣa* thus have a significance quite different from what they have in the *Vaiśeṣika*-*sūtras*. The principle of *sāmānya* and *viśeṣa* is the main support of Āyurveda ; for it is the principle which underlines the application of medicines and the course of diets. Substances having similar constituents or characteristics will increase each other, and those having dissimilar constituents or characteristics will decrease each other...Instead of having only a conceptual value, *sāmānya* and *viśeṣa* are here seen to discharge a pragmatic work of supreme value for Āyurveda."[162]

Dasgupta himself is inclined to see in this view of *sāmānya* and *viśeṣa* an "indebtedness" of Āyurveda to the Vaiśeṣika philosophy.[163] "It is well to note in this connection," says he, "that the *Caraka-saṃhitā* begins with an enumeration of the Vaiśeṣika categories, and, though it often differs from the

161. *Ib.* i.1.44-5. 162. Dasgupta ii.371. 163. *Ib.* ii.366.

Vaiśeṣika view, it seems to take its start from the Vaiśeṣika."[164] "In the case of *sāmānya* and *viśeṣa*, again, Caraka seems to add a new sense to the words."[165] Such an understanding of the relation between Vaiśeṣika philosophy and the medical theories, as we shall later argue, is in need of amendment. Historically speaking, there are many grounds to think that the fundamental categories of the Vaiśeṣika philosophy originally take shape in the medical school to meet the theoretical requirements of the practising physicians.

20. A GENERAL DESCRIPTION OF MEDICAL THEORY

We shall quote here a passage of the *Caraka-saṃhitā*, which sums up some of the main points of the medical theory we have discussed so far, as well as adds a few more points to those already discussed. Roughly translated, the passage is as follows:
"The exact knowledge of the body subserves the purpose of maintaining its health, because it is only on the strength of the knowledge of the body that we can determine the factors contributing to its well-being. Hence do the experts extol the knowledge of the body.
"By the body is meant that combination of matter in five forms which serves as the substratum of consciousness and which (normally) maintains the balance (of the body-elements).
"When therefore the body-elements become discordant, the body suffers disease and even death. This tendency towards discordance of the body-elements, again, is brought about by their hypertrophy or atrophy, whether partial or complete.
"This hypertrophy or atrophy of the body-elements resulting from their mutual conflict takes place simultaneously, because whatever factor tends to increase one body-element tends at the same time to decrease another body-constituent which is

164. *Ib.* ii.369. 165. *Ib.* ii.371

opposed to it. (That is, when one body-element is by nature opposed to another, the increase or decrease of the former naturally leads to the decrease or increase or the latter.)

"Therefore, medicine is that which, when rightly administered, becomes at the same time a harmoniser of the increased or decreased body-elements. It brings down the element that has become excessive and at the same time augments the deficient one (opposed to it).

"Indeed, this alone is the end sought by the use of medicine as also by the observance of desirable habits. It is the balance of the body-elements, to be achieved or maintained as the case may be. It is only with the view of maintaining the balance of the body-elements that the intelligent person, while being healthy, would use by rotation a variety of dietary substances with different taste-qualities and other properties, the effects of which are ascertained to be agreeable to the body, i.e. as contributing to its balance. However, those who have to depend on one particular variety of food should endeavour to balance its over-use by physical exercise, which is known to be counter-active to it.

"Right mode of living ensuring the balance of the body-elements comprises the proper performance of acts and use of diets, which are counter-active to local, seasonal and individual idiosyncrasies. It includes also the suppression of all tendencies to excess, the non-suppression of the excretory impulses, i.e. non-suppression of the tendency of the body to expel the excretions from within the body, and the avoidance of violent activities. Right mode of living comprising these, it is taught, brings about the balance of the body-elements.

"The body-elements, again, increase by the repeated consumption of substances that either wholly consist of or predominate in like qualities, and those diminish by the repeated consumption of things that either wholly consist of or predominate in unlike qualities.

"Here is an enumeration of the qualities of the body-elements : heavy, light, cold, hot, unctuous, dry, slow, acute, stable, mobile, soft, hard, clear, slimy, smooth, rough, subtle, gross, dense and liquid.

"Of these, the body-elements that are heavy increase by the repeated intake of substances that are heavy ; these at the same time reduce the body-elements that are light. The light ones, again, increase by the intake of light substances, which, at the same time, reduce body-elements that are heavy. In this manner, there is increase of body-elements by the intake of substances with like qualities and decrease of body-elements by intake of substances with unlike qualities.

"Hence the body-element in the form of flesh grows more by the intake of flesh, i.e. relatively to the rest of the body-elements. Similarly, the body-element in the form of blood increases by the intake of blood ; the body-element in the form of fat increases by the intake of fat ; the flesh-marrow *(vasā)* by the intake of flesh-marrow ; the bones by cartilage, the bone-marrow by bone-marrow, the semen by semen and the foetus by foetus.

"Now, in cases where substances of identical nature, in conformity with this rule, are not available—or, even if available the substances cannot be used either because they are unsuitable or because they are disgusting or because of some other reason, and, nevertheless, it is necessary to increase a particular body-element whose perfectly corresponding one cannot be used as food-substance—recourse must be taken to substitute food-substances abounding in qualities of the specific body-element the increase of which is required.

"Thus, for instance, in the case of the diminution of semen, use may be made of milk and clarified butter, and also other articles listed as sweet, unctuous and cooling ; in diminution of urine, use may be made of sugar-cane juice, Vāruṇī wine, and also substances having liquid, sweet, acid, salt and moisture-producing properties ; in diminution of faecal matter, use may be made of horse-gram, black gram, mushroom, the viscera of goats, barley, vegetables and the sour gruel of grains ; in diminution of *vāta*, use my be made of substances that are bitter, astringent, dry, light and cold ; in diminution of *pitta*, use may be made of substances that are sour, salt, pungent, alkaline, hot and acute ; in diminution of *kapha*, use may be made of substances that are unctuous, heavy, sweet, dense and slimy.

"Recourse is to be sought also to physical exercise which

stimulates a particular body-element whose growth is sought. In this manner, by the use of like and unlike substances and also by physical exercise, the increase or diminution of body-elements is to be brought about. Thus we have explained the direct and indirect methods of bringing about the increase or decrease of body-elements."[166]

It is already evident from this passage that in trying to explain the theoretical foundations of therapeutic technique, the ancient physicians are confronted with a situation which is actually far more complicated than is covered by their simple formula of restoring the balance of the body-elements by increasing or decreasing some specific form of it, using natural substances with like or unlike qualities. Assuming, for example, that the use of milk, clarified butter and other articles listed as "sweet, unctuous and cooling" is observed to have an appreciable effect in curing what is called "the diminution of semen in the body", it is not easy to work out the explanation of this phenomenon in terms of the medical formula which it is supposed to illustrate. Besides, admitting that as physicians they observe the desirable effect of physical exercise for maintaining health, how can they at all hope to relate also this phenomenon to their set formula and claim that physical exercise stimulates a particular body-element ? Are all these dogmatic assertions pure and simple or is there anything behind these assertions to indicate the gropings at scientific explanation on the part of the pioneers of medical science ? Before answering the question in haste, let us try to understand the way in which their mind seems to be working.

21. MEANING OF THE MEDICAL FORMULA

The *Caraka-saṃhitā* speaks of twenty qualities of substances. The list of these begins with two antagonistic ones, which the

166. *Caraka-saṃhitā* iv. 6. 3-11.

physicians call heavy *(guru)* and light (*laghu*). What exactly is meant by these ? From their viewpoint, the answer is quite simple. They observe that certain substances are rather easily digested while it is difficult to digest certain other substances. This difference, they feel convinced, is due to the inherent nature of the substances. Thus, the substances observed to be easily digested are in their view "light by nature" *(svabhāva-laghu)*, while substances observed to be difficult to digest are viewed as "heavy by nature" *(svabhāva-guru)*. Depending on this, they do not find much difficulty in classifying the various substances under these two main groups. Thus the *Caraka-saṃhitā* says, "In view of this, *śāli* rice, *ṣaṣṭika* rice, *mudga* or green gram, common quail, grey partridge, antelope, rabbit, wapiti, Indian sambar and such other articles of food are light by nature... Similarly, cakes of flour, preparations of sugar-cane juice and condensed milk, *til*, black gram, the flesh of aquatic and wet-land animals and such other articles of food are heavy by nature."[167]

This much is perhaps simple observation and the lack of accuracy—if any—in this is only due to the want of controlled conditions, the importance of which takes many centuries for the scientists to realise. For the ancient doctors, however, the facts thus observed also raise a theoretical question. How are they to account for the fact that certain substances are not easily digested while others are digested easily ? In other words, what is it that makes certain substances "heavy by nature" and others "light by nature" ? The physicians are supposed to answer this question in accordance with their fundamental proposition that all substances in nature are made of matter in five forms, viz, earth, water, air, fire and *ākāśa*. Accordingly, after stating the list of substances 'by nature light' or 'by nature heavy', the *Caraka-saṃhitā* adds that such nature of substances is not to be viewed as accidental or without cause. The fact on the contrary is that substances which by nature are light are so because of the predominance of fire and air in these, just as

167. *Ib.* i.5.5.

substances which are by nature heavy are so because of the predominance of earth and water in these. As the text says, "In this statement, the substances being heavy and light are not to be viewed as uncaused. Because of the predominance of the qualities of air and fire, certain substances are naturally light; the other substances (i.e. those which are by nature heavy) have predominance of the qualities of earth and water" : *na ca evam ukte dravye guru-lāghavam akāraṇaṃ manyeta ; laghūni hi dravyāṇi vāyu-agni-guṇa-bahulāni bhavanti ; pṛthivī-soma-guṇa-bahulāni itarāṇi.*[168]

We can thus see, when the physicians speak of substances as heavy or light, they have in mind something else altogether than their weight. What they are really groping for is something more fundamental, viz the kind of matter constituting the substances. But how is this matter-composition of substances related to the basic fact of observation, viz. that some of these are easily digested while the others are not? From the physician's viewpoint, the answer to this is to be sought in the nature of the digestive process itself. We have seen how, depending on the technological developments of their times, they are led to attach the greatest importance to the role of fire in this process. Accordingly they think that a substance made predominantly of fire adds to the fire in the body; and this makes it easily digested. But a substance made predominatly of earth and water, because of the insufficiency of fire in it, makes it comparatively difficult to digest. The fact that even such a substance is digested after all is due to the presence of fire in it also, though secondarily or in a subsidiary form. The physicians, as we have already noted, conceive every substance as made of matter in all its five forms. It is only because of the predominance of some matter-form in a substance that it is called "made of earth" or "made of water", etc. Thus fire exists in each substance, which makes it more or less digestible. But the predominance of fire in "substances by nature light" makes them easily digested. Thus the *Caraka-saṃhitā* asserts, "Consequently, substances that are light stimulate by their

168. *Ib.* i. 5. 6.

inherent nature the fire (within body). Hence these do not cause much harm even though taken in excess" : *tasmāt svaguṇāt api laghūni agni-sandhukṣaṇa-svabhāvāni alpa-doṣāṇi ca ucyante api sauhitya-upayuktāni.*[169]

Such an understanding of the role of fire in digestion cannot but raise another problem for the ancient physicians. Interested in the well-being of the human body as they above all are, they do not fail to observe the simple fact that physical exercise also helps digestion and increases appetite. How are they to account for this fact consistently with their understanding that digestion depends on matter in its fire-form ? For them there can be only one answer to this. Physical exercise must be viewed as somehow or other generating fire within the body. So they speak of *vyāyāma-agni* or "fire resulting from physical exercise." This helps the digestion of "substances that are by nature heavy", which, medically speaking, means "substances that are by nature deficient in fire." Thus the *Caraka-saṃhitā* says,

"Again, substances that are heavy—because of having contrary quality—do not by nature stimulate fire within the body. Unless therefore fire is increased within the body by physical exercise, over-eating of these is very harmful" : *gurūṇi punaḥ na agni-sandhukṣaṇa-svabhāvāni, a-sāmānyāt ; ataḥ ca atimātraṃ doṣa-vanti sauhitya-upayuktāni ; anyatra ca vyāyāma-agni-balāt.*[170]

How are we to look at this explanation ? Is it to be viewed as merely the tendency to add one assumption to another for the sake of supporting a pre-conceived theoretical view ? Or, could it be that by assuming this *vyāyāma-agni* the physicians are also trying to take note of another fact of simple observation, namely that physical exercise makes the body hot ? Evidently, to the pioneers of rational medicine, heat generated in the body is inconceivable without the assumption of the generation or provocation of fire within. The rise in body temperature etc. due to physical exercise can thus be only because of the increase of fire in the body. To the ancient physicians, this is corroborated by the further fact of simple observation, namely

169. *Ib.* i. 5. 6. 170. *Ib.*

that physical exercise helps the digstion of substances otherwise not easily disested.

22. UNDERSTANDING THE SUBSTANCES : DRAVYA, GUNA, KARMA & SAMAVĀYA

We have discussed all these specially to see how the minds of the ancient scientists are possibly working. They are keen on understanding certain qualities (*guṇa*-s) of substances (*dravya*-s), because these are supposed to be pointers to their matter-composition. Thus, the flesh of wet-land animals like buffalo and pig is "heavy" while that of the wapiti and sambar is "light", not because the former weighs more than the latter but because the matter-composition of the former is different from that of the latter.

Obviously enough, it requires centuries of patient research to move towards a gradually perfected knowledge of the nature of matter and of the laws of its transformation, only on the strength of which this problem of matter-composition of things can possibly be better grasped than is actually done by the ancient doctors viewing matter merely as earth, water, air, etc. What interests us, however, is to see how the theoreticians of medical science do the pioneering work not only in formulating the problem but also in developing some conceptual tools for solving it.

This theoretical work presupposes the compilation of empirical data specially about the therapeutic agents. The enormity of such data, as found in the *Caraka-saṃhitā* and *Suśruta-saṃhitā* in already mentioned. But Āyurveda would have remained at a more empirical leavel—as something like the medical lore of the tribal peoples—if the empirical data were left as such. What the theoreticians of Indian medicine attempt moreover is a systematic interpretation of these. Of the conceptual apparatus developed for the purpose, three are most important. These are called *dravya* or substance, *guṇa* or quality and *karma* or action, though—specially for explaining the relation between the

substance and its qualities—the need is also felt for a fourth category, which is called *samavāya,* meaning eternal and inseparable relation. Like the *sāmānya* and *viśeṣa* of the physicians already discussed, we meet also these four categories in the Vaiśeṣika philosophy. For the present, we shall avoid the question of this philosophy being influenced by medicine or medicine borrowing from this philosophy. We shall discuss instead these categories as understood by the ancient doctors for the purpose of systematising their empirical data.

The therapeutic agents are viewed as belonging to the general category of natural substance or *dravya.* Medically speaking, what interests the scientists most is their action or *karma* on human beings. The need for these two categories is thus quite obvious. But there is another special problem. Rejecting supernaturalism and mysticism, all substances are viewed by them as made of matter or *bhūta.* But how to determine the matter-composition of a substance, only in terms of which its action on the body is to be judged ? The ancient doctors give us the impression that in their view the qualities or *guṇa*-s of a substance can give us the clue to its matter-composition, and therefore also to its actions. Hence is the need for this third category, namely *guṇa* or quality. Accordingly a great deal of emphasis is put in the *Caraka-saṃhitā* on the importance of these three categories for medical science. It declares,

"Thus, only in this treatise are discussed the substances, qualities and actions, as promotive or otherwise of life" : *tatra āyuṣyāṇi anāyuṣyāṇi ca dravya-guṇa-karmāṇi kevalena upadekṣyante tantreṇa.*[171]

But how far is the procedure of judging a substance from the qualities really dependable ? It cannot at all be dependable if the relation between the two is accidental, transitory or detachable. However, the physicians think that their relation is not always so. There are cases in which the relation between the qualities and substances is peculiarly inseparable or undetachable, and in this sense eternal. A relation like this is called *samavāya,* as for example the relation between matter in its

171. *Ib.* i. 30.23.

earth-form and its specific quality, which, according to the physicians, is smell. Explaining this, the *Caraka-saṃhitā* says, "The relation between earth etc. and their (specific) qualities is inseparable. Such a relation is called *samavāya*. It is eternal. Wherever there is a substance, there is also its (inseparable) quality. There cannot be any instance to the contrary."

samavāyaḥ apṛthagbhāvaḥ bhūmyādīnāṃ guṇaiḥ mataḥ
saḥ nityaḥ ; yatra hi dravyaṃ na tatra aniyataḥ guṇaḥ//[172]

This relation of inseparableness or *samavāya* is therefore exceedingly important from the medical viewpoint. When such a relation exists between a quality and a substance, the former is an unmistakable pointer to the latter. Thus, for example, all sorts of qualities may be found associated with a substance. But the physician has got to determine which of these are just accidentally associated with the substance and which of these are so inseparably related to the substance that these are inconceivable without the substance : wherever the substance is there must be these qualities or that any case of the presence of these qualities without the substance is inconceivable. Only when the qualities are thus impossible without the substance, they are infallible indices to the nature of the substance.

But this identification of the nature of a substance by its inseparable qualities is for the physician only a means to an end The end is to know—and thereby to regulate—the action *(karma)* of the substances on our bodies. This action is determined by the inherent nature of the substance, i.e. by its matter-composition. Thus the qualities apart, there exists in the substance also its specific action.

From the medical viewpoint therefore the substance is the substratum not only of its inseparable qualities but also of its inseparable action. The specific action of a substance is no more detachable from it than its specific quality. If it is impossible for a substance to exist without its specific quality, it is also inconceivable for it to be without its specific function or action. The nature of a substance, once identified by its inseparable qualities, can thus be effectively recommended by

172. *Ib.* i.1.50.

the physician for regulating the change required for the body. This means that though both the inseparable quality and the inseparable action have for their substratum the same substance, the status of the former is quite different from that of the latter. The inseparable quality of a substance is only a passive pointer to the nature of the substance. But the medical effect of a substance is due to the function it has because of its inherent matter-composition. As the *Caraka-saṃhitā*, in the course of explaining the basic theoretical principles of medicine, asserts : "Substance is that which serves as the substratum of the actions and qualities related inseparably to it. The quality, though inseparably related to the substance, is cause only in the passive sense. As residing in the substance, that which serves as the (real) cause of conjunction or disjunction (of the body-elements) is action *(karma)*, by which is meant its actual function. This action is not determined by anything else (than the inherent nature of the substance itself)."

yatra āśritāḥ karma-guṇāḥ kāraṇaṃ samavāyi yat/
tat dravyam ; samavāyī tu niśceṣṭaḥ kāraṇaṃ guṇam//
saṃyoge ca vibhāge ca kāraṇaṃ dravyam āśritam/
kartavyasya kriyā karma ; karma na anyat apekṣate//[173]

Karma or action is thus the function of a substance inherent in it. It has two forms, called conjunction *(saṃyoga)* and disjunction (*vibhāga*), which, as we have repeatedly seen, mean the addition and diminution of some particular form of body-matter. We have also seen that from the viewpoint of these two forms of functions, the natural substances, in relation to body-elements, are technically called *sāmānya* and *viśeṣa*. A substance causing conjunction to a specific from of body-element —i. e. as adding to it—is *sāmānya* in relation to this body-element. A substance causing disjunction to a specific form of body-element—i. e. as diminishing it—is *viśeṣa* in relation to this body-element. These two complete the list of the six categories, viz. *dravya* (substance), *guṇa* (quality), *karma* (action), *samavāya* (inseparable relation), *sāmānya* (similar, alternatively also called *vṛddhi-kāraṇa* or "the cause of

173. *Ib.* i.1.51-2.

increase") and *viśeṣa* (dissimilar = *hrāsa-hetu* or "the cause of diminution). These then are the basic conceptual tools with which the ancient theoreticians of medicine try to systematise a vast stock of empirical data concerning the natural substances consumed and of the ways in which these variously affect our body-elements.

23. BHARADVĀJA : AN EARLY THEORETICIAN

With this list of the six categories, we can now try to understand what otherwise appear to be two strange features of the extant *Caraka-saṃhitā*.

First, the history of Āyurveda, with which the medical compilation begins. Shorn of the mythological elements added to it, it mentions a certain Bharadvāja as the earliest authority on medicine. Strangely, however, instead of attributing to him any discourse on health, disease and drugs—which is only normally expected of such an authority—the text attributes to him a very cryptic statement, the essence of which is the enumeration of these six categories.[174] Though apparently extremely peculiar as an account of an outstanding event in the history of Indian medicine, the presumption is that this cannot be without some very good reason. This reasons, as we have just seen, is the importance of these categories for the theoretical fundamentals of Āyurveda. In other words, the medicnl compilation seems to retain in its own way the memory of a very early theoretician of the medical school—in fact the first that our text is aware of—who strives after a systematic understanding of an aggregate of empirical data before him. The vastness of this empirical data leads us to presume that these could be compiled only by generations of ancient healers—the "roving physicians" or *caraka*-s or *cāraṇa-vaidya*-s—exploring a wide geographical area in search of the healing agents. Admitting this, from the viewpoint of the *Caraka-saṃhitā* the genius of Bharadvāja consists in his develop-

174. *Ib.* i.1.28-9.

ing or using the conceptual apparatus suitable for the systematisation or theoretical understanding of this data. The conceptual apparatus consists of the six categories—*dravya, guṇa, karma, samavāya, sāmānya* and *viśeṣa*—the enumeration of which is therefore only expected of him. Thus the cryptic statement of the *Caraka-saṃhitā*, according to which Bharadvāja is supposed to expound to the assembly of doctors the view of these six categories (*sāmānyaṃ ca viśeṣaṃ ca guṇān dravyāṇi karma ca /samavāyaṃ ca)* may as well be very relevant from the viewpoint of the history of Indian medicine.

But does Bharadvāja develop the view of these categories or does he simply adopt it from some pre-existing philosophy ? We cannot ignore this question because, as it is well-known, these categories constitute the essential theme of the Vaiśeṣika philosophy. Nothing is therefore easier for the historian of Indian philosophy to assume that the ancient physicians borrow extensively from the Vaiśeṣika philosophers for the purpose of providing medical science with a philosophical foundation. But we shall later see how many difficulties are involved in such an easy assumption. For the present we shall note another peculiarity of our extant *Caraka-saṃhitā*.

In spite of paying great tribute to Bharadvāja as the earliest theoretician of Āyurveda, the opening chapter of our *Caraka-saṃhitā* abruptly stops saying anything more about him. The text returns to him much later[175], though this time with the purpose of urging him to renounce his heretical views in favour of an ideology approved of by Indian orthodoxy. Why is this peculiarity of the text ?

We have perhaps a clue to this in the passage of the *Caraka-saṃhitā* we have quoted last. It ends with the assertion that the action of a substance is determined exclusively by the substance itself and it is not influenced by anything else : *karma na anyat apekṣate.*[176] Why is this emphasis on the exclusion of any other factor as possibly influencing the action of a substance on the human body ? Could it be because of the anxiety to disown the view of supernatural causation widely

175. *Ib.* iv.3. 176. *Ib.* i.1.52.

current in ancient India—specially the view that human happiness or suffering is determined by the "unseen" *(adṛṣṭa)* hangovers of actions performed in past lives? According to this view, even when a particular drug is observed to cure a specific disease, the cure is not really due to the intrinsic efficacy of the drug itself but to the *adṛṣṭa* or the "unseen", the drug having at best the status of an auxiliary at the service of *adṛṣṭa.* In any case, there can be no doubt that the emphatic claim of the ancient doctors that the action of a substance is determined by the substance itself leaves no scope for any supernatural view of the efficacy of a substance being influenced in any way by *adṛṣta* or god or any other factor like that. With this rejection of the possible supernatural views, what can the doctor be left with ? There is only one answer to this. It leaves him with a purely naturalistic view of the actions of substances—the view that the *svabhāva* or the inherent nature of a substance produces its specific result. In Indian terminology, this is known as *svabhāva-vāda,* literally "the doctrine of nature", or according to the modern way of putting it, "the doctrine of the laws of nature".

We shall see, though such a view is strongly condemned as heretical by Indian orthodoxy because of its overt materialist implications, it cannot but be a fundamental proposition for defending the intrinsic efficacy of medicine—a point on which the ancient Indian doctors are most keen. The view of *svabhāva,* in other words, belongs to the theoretical fundamentals of Āyurveda.

We can perhaps now understand the second peculiarity of the *Caraka-saṃhitā* we have just mentioned. If it remembers Bharadvāja as the earliest theoretician of Indian medicine and if the view of *svabhāva* is required by the basic theoretical position of Āyurveda, the possibility of Bharadvāja having been a defender of this view cannot be easily ruled out. To the later "reconstructors" of our *Caraka-saṃhitā* such a possibility— or perhaps some ancient tradition actually attributing the view of *svabhāva* to Bharadvāja—must have been extremely embarassing, because of the intense contempt of Indian orthodoxy for this view. What then can they do but to insert a special chapter

into the medical compilation, describing how Ātreya—the pious spokesman of Āyurveda—urges Bharadvāja to renounce his heretical view, which is specially the view of *svabhāva* ? This precisely forms the theme of the entire third chapter of the *Śārīrasthāna* of our *Caraka-saṃhitā*, which we shall discuss later.

24 DISEASES : VĀYU, PITTA & KAPHA

From what is already discussed, it is clear that two problems are crucial for the ancient physicians. First, in the case of every disease, they have to detemine the nature of matter-imbalance in the body causing it. Secondly, they have to identify some substance or combination of substances the matter-composition of which is such that—when transformed within the body—it should rectify the said matter-imbalance.

It is evident for us today that both the problems are immensely more complicated than can possibly be solved with the *pañca-bhūta* theory or the view of matter as earth, water, air, fire and *ākāśa*. For the pioneers of medical sience, however, there is no possibility of developing a more adequate understanding of the nature of matter. In so far as they are lured by the fascination for a theoretically complete explanation of diseases and drugs on the strength of this view of matter, they run the risk of being drifted towards a schematic understanding of both.

After the decadance of Indian medicine, such schematic understanding increasingly assumes the form of dogmatic formulas indiscriminately used specially in diagnosis and even in therapeutics, though what saves the latter at least partially is the undercurrent of vitality derived from the empirical knowledge once acquired by the physicians. This aspect of Āyurvedic theories has naturally no abiding interest for us. We shall mention it very briefly and then return to the general features of science consciousness with which rational medicine (*yukti-vyapāśraya bheṣaja*) begins in ancient India.

The schematic form of Āyurvedic theories and their eventual

dogmatic degeneration is obvions in the formulas of *vāyu*, *pitta* and *kapha*, with which the causes of all diseases are sought to be explained. We have already seen what these mean. Foods. consumed undergo a twofold transformation, called the nourishing substance or *prasāda* and excrements or *mala*. Of the various products of the latter, three are called *vāyu*, *pitta* and *kapha*, meaning wind, bile and phlegm. It seems that in a large number of diseases the physicians observe that there is an abnormal accumulation of one or more of these waste-products of food in the body. Hence they think that, though in their normal proportion even these waste-products of food are essential for the maintenance of the proper balance of body-constituents[177], the excess of any of these—which usually causes the abnormal diminution of the others—results in various diseases. But the physicians do not remain satisfied with this view. They seem to strive after a universal solution of the problem of aetiology of all diseases. So they seem to drift towards some set formulas of *vāyu*, *pitta* and *kapha*, in terms of which the origin of all diseases is imagined to be explained. Already in the *Caraka-saṃhitā* and *Suśrutā-saṃhitā* in their extant forms this tendency becomes highly prominent. But Vāgbhaṭa[178] says that Kapilabala—the father of the final "reconstructor" of our *Caraka-saṃhitā* develops his own understanding of *vāyu*, *pitta* and *kapha*. So we cannot outright reject the possibility of these three waste-products of foods acquiring increasing prominence in the medical compilations from those through whose hands these pass before assuming their present form. In any case, what we read about *vāyu*, *pitta* and *kapha* in the extant medica lcompilations are on the whole a bundle of dogmatic assertions about how these cause all possible diseases[179]—assertions that become all the more cumbrous, arbitrary and often mutually conflicting in the later commentaries and digests on Āyurveda. Readers interested in this aspect of the Āyurvedic view are referred to Dasgupta[180],

177. *Caraka-saṃhltā* i 20.9 ; i.28.4. 178. *Aṣṭāṅga-saṃgraha* (KSS-ed) i.20, p. 193. 179. *Caraka-saṃhitā* i 28.10-19. 180. Dasgupta ii.319-339.

who has discussed it in detail. What perhaps interests more the historian of Indian science is another point. In spite of the arbitrariness and dogmatism caused in the medical view by the ever-increasing importance attached to the formulas of *vāyu*, *pitta* and *kapha*, the medical compilations retain for us evidences also of a broader—and perhaps earlier—view according to which any excess or diminution of the body-constituents caused by foods transformed both as nutritional substances *(prasāda)* and excrements *(mala)* results in disease. We have already quoted some passages of the *Caraka-saṃhitā*[181] expressing this pre-schematic view of disease and health, which is nearer the general materialist hypothesis concerning the interaction between environmental matter and body-matter. This hypothesis seems to contain much greater science potential : instead of dragging the medical theory to some dogmatic dead-end, it can attract the doctors to probe deeper into the problem of the nature of matter and thereby pave the path for creative development of medical theory.

But the ancient physicians fail to develop an insight into the nature of matter deeper than the view of it as earth, water, air, etc., with which they try to understand the matter-composition of all substances in nature and of their transformations in the body. This, to say the least, is too ambitious for the ancient scientists. In trying to arrive at a complete solution of the problem, the obvious risk again is that of being drifted to certain schematic formulations. The source-books of Āyurveda show how serious is the risk, because the texts do strive after certain arbitrary conclusions only with a deceptive appearance of completeness. What partially saves this aspect of Āyurvedic theory from degenerating into dogmatism is the physicians' fidelity to the observation of facts.

25. DRUGS : RASA, VĪRYA, VIPĀKA & PRABHĀVA

As we have already seen, the physicians try to understand the

181. See *supra* pp. 78-9 and 142 ff.

nature of substances depending mainly on their qualities. What is apparently peculiar is that the *Caraka-saṃhitā* enumerates the qualities in two separate lists. The first of these lists—mentioned as 'sound etc.'—contains five qualities, viz. sound, smell, touch, colour and taste. The second list—cryptically called 'heavy etc. ending with the liquid'—contains twenty qualities, viz. heavy, light, cold, hot, unctuous, etc.[182] Our first question naturally is : Why, instead of one list of twenty-five qualities, does the text give two separate lists ? The answer is that there is obviously some basic difference between "qualities" as understood in these two lists. The qualities of sound etc. are directly perceived by the sense-organs ; but the qualities in the other list are not so. We have already discussed two of these viz. light and heavy, and we have seen that these mean easy digestibility or otherwise of a substance. This easy digestibility or otherwise of a substance, it needs to be noted, does not belong to the category of "action" (*karma*), by which is meant the medically significant change produced by the substance in the body-constituents. Thus the "action" of buffalo-flesh, which is considered "heavy", is that it "promotes firmness and corpulence of the body and it gives energy and sleep."[183] The flesh of wapiti and sambar is by contrast "light." As belonging to the *jāṅgala* class of animals[184] their flesh has the "action" of restoring the blance of the body-elements when their disturbance is due to the excess of bile and deficiency of phlegm.[185]

Thus "light" and "heavy", though having the substance as their substratum, do not belong to the category of "action" and are hence considered "qualities". But these are qualities not in the sense of being directly apprehended by the sense-organs, as sound, colour, taste, touch etc. are., "Light", "heavy" etc.—and therefore also the other eighteen qualities mentioned in this list—are qualities in some technical sense immediately relevent for medical purposes. Hence the *Caraka-saṃhitā* wants to equip

182. see *supra* pp. 67-8.
183. *Caraka-saṃhitā* i 26.80-1.
184. *Ib.* i 27.45-6.
185. *Ib.* i.27.59-60.

the physicians with the knowledge of these. Here are only a few of the hundreds of examples we read in the text.

The *ṣaṣṭika* rice is cold, unctuous and light,[186] while the *vrīhi* rice is heavy.[187] The common millet is light and cold[188] and so is barley[189] but wheat is unctuous and heavy.[190] Among the pulses, green gram is dry, cold and light[191] though black gram is unctuous, hot and heavy.[192] The flesh of the five classes of animals called "tearer", "burrower". etc., is heavy, hot and unctuous[193] but those of the *jāṅgala* animals is light and cold.[194] The flesh of the goat is not very cold nor very heavy nor very unctuous[195] while that of the sheep is heavy and cold [196] The milk of animals with uncloven hoof is hot and dry,[197] that of the goat is cold[198] and that of the sheep is hot.[199] And so on.

From what we have discussed about "heavy" and "light", there are grounds to think that the twenty qualities mentioned in this list are supposed to be pointers to the matter-composition of substances and the *Caraka-saṃhitā* gives us the impression that the view of these is arrived at by the observation of the various effects of substances on our bodies. Once therefore the physicians can prepare a ready reckoner of different substances having these qualities, there is hope of easily solving their problem of prescribing the appropriate durg or diet for the patient. But since these qualities are not directly apprehended by the sense-organs, these cannot solve the problem of identifying the nature of a substance from its qualities. It seems that for this purpose the physicians feel obliged to depend on the qualities mentioned in the other list, viz. sound, smell, taste, touch and colour.

It is obvious, however, that all these sense-qualities cannot be equally important or equally essential for the purpose of identifying the nature of a substance. At any rate, the physicians somehow feel convinced that of these sense-qualities, the

186. *Ib.* i.27.13. 187. *Ib.* i.27.14. 188. *Ib.* i.27.16
189. *Ib.* i.27.19. 190. *Ib.* i.27.21. 191. *Ib.* i.27.23.
192. *Ib.* i.27.24. 193. *Ib.* i.27.56-7. 194. *Ib.* i.27.59-60.
195. *Ib.* i 27.61. 196. *Ib.* i.27.62. 197. *Ib.* i.27.221.
198. *Ib.* i.27.222. 199. *Ib.* i.27.223.

most important one is taste, which they call *rasa*. Hence is the great importance of the view of *rasa* or taste-quality in the medical theory of natural substances.

It needs immediately to be noted that in the context of nature or natural substances, the word *rasa* means something else than what it means in the context of the body. In the latter context, it means the "organic sap" produced from the digested food. But what is meant by *rasa* in the context of nature or natural substances ? It is evident from the *Suśruta-saṃhitā*[200] as well as *Caraka-saṃhitā*[201] that there is a great deal of confusion and controversy on this question among the ancient physicians. The *Caraka-saṃhitā* contains in fact the account of a long debate on it, in which no less than ten different authorities express widely different views of the *rasa*-s.[202] But the text wants us to give the impression that out of this chaos of divergent views, some standardised understanding of *rasa* is evolved in the medical school. It is summed up as follows :

"*Rasa*-s are only six—sweet, sour, salt, pungent, bitter and astringent...Their substrata are the substances resulting from five forms of matter as transformed by their nature (*prakṛti*), the laws of their modification (*vikṛti*) and combination (*vicāra*), as well as the influences of place (*deśa*) and season (*kāla*). In these substances exist the qualities (*guṇa*-s) called heavy, light, cold, hot, unctuous, dry, etc."[203]

Elsewhere, the text defines *rasa* as that which is apprehended of a substance when our tongue comes in first contact with it.[204] Further, we are told, "By *rasa* is meant the object of the gustatory sense. It has for its origin water and earth, though in special cases also the other three, viz. *ākāśa*, etc."[205] There is thus no doubt that, in the context of natural substances, *rasa* means taste-quality, though for the purpose of identifying the nature of a substance it is considered so important that the text often figuratively uses the word *rasa* to refer to the substance in which it inheres.[206]

200. *Suśruta-saṃhitā* i.40. 201. *Caraka-saṃhitā* i.26 8. 202. *Ib.*
203. *Ib.* i.26.9. 204. *Ib.* i.26.28. 205. *Ib* i.1.64.
206. Dasgupta (ii.361) quotes Cakrapāṇi : *rasāḥ iti rasayuktāni dravyāṇi—*

Such then is the position of the ancient physicians. It is imperative for their therapeutic purposes to understand the nature of the various substances of the world, which they have to prescribe as diets or drugs. But the only possibility they find open for this purpose is to depend on their tastes or *rasa*-s, which are in fact considered so important as almost to be interchangeably used for the substances in which these inhere. Accordingly, great care is taken by both *Caraka-saṃhitā*[207] and *Suśruta-saṃhitā*[208] to instruct the doctor how to determine these taste-qualities of substances. There is also the effort to correlate these taste-qualities with the twenty other qualities called "heavy", "light", etc. Thus the *Caraka-saṃhitā* formulates, "As regards the quality called dry *(rukṣa)*, the astringent taste possesses it in the highest degree, the pungent in the moderate degree and bitter in the minimum degree. Similarly, as regards the hot *(uṣṇa)* quality, salt possesses it in the highest degree, sour in moderate degree and pungent in the lowest degree. As regards the unctuous *(snigdha)* quality, the sweet taste possesses it most, the sour taste moderately and the salt taste the least. Regarding the cold *(śīta)* quality, sweet taste possesses it in the highest degree, astringent in moderate degree and the bitter in the lowest degree. With reference to heavy *(guru)* quality, sweet taste possesses it in the highest degree, the astringent in the moderate degree and the salt in the lowest degree. As regards light *(laghu)* quality, the bitter taste possesses it in the highest measure, pungent taste in moderate measure and the sour taste in the lowest measure."[209]

There is also the attempt in both *Suśruta-saṃhitā*[210] and the *Caraka-saṃhitā* to explain the origin of the taste-qualities in different substances in terms of the view of five-fold matter. We quote here from the *Caraka-saṃhitā*, in which Ātreya says, "I shall now explain the origin of the six tastes from the five forms of matter *(pañca-bhūta-prabhavāḥ rasāḥ)*.

"Water originating in the sky is by nature pure *(saumya)*,

"*rasa*-s mean the substances in which the *rasa*-s inhere."

207. *Caraka-saṃhitā* i.26.74-9. 208. *Suśruta-saṃhitā* i.40.10. Tr B.

209. *Caraka-saṃkitā* i.26.53-6. 210. *Suśruta-saṃhitā* i.42.1-4. KSS-ed.

cold, light and without any manifest taste. However, while falling from the sky—and after having thus fallen—it gets endowed with the characteristics of the five forms of matter, and sustains the bodies of all creatures—both the immovable ones (*sthāvara*=plants) and movable ones (*jaṅgama*=animals). In these bodies become manifest the six *rasa*-s.

"Of these six *rasa*-s, sweet is due to the predominance of water, sour is due to the predominance of earth and fire, salt is due to the predominance of water and fire, pungent is due to the predominance of air and fire, bitter is due to the predominance of air and *ākāśa*, astringent is due to the predominance of air and earth.

"Thus originates the distinctness of the six tastes from the paucity or predominance of the five forms of matter, in the way in which the peculiarities of colour and form originate in all the living creatures, both immobile and mobile (i.e. from the same five forms of matter)."[211]

For the practical purpose of the doctor, however, what is supposed to be most important is the table of actions and other qualities of the different substances according to the predominance of the taste-qualities or *rasa*-s in these. Both the *Suśruta-saṃhitā*[212] and the *Caraka-saṃhitā* prepare such a table. We quote here the one given in the *Caraka-saṃhitā* :

"Among these six *rasa*-s, the sweet taste (i.e. a substance with *madhura-rasa*), being homological with the body-constituents, increases 'the organic sap', blood, flesh, fat, bone, marrow, 'corporeal vigour' *(ojas)* and semen. It promotes life and invigorates the sense-organs. It adds to strength and complexion, destroys *pitta*, poison and *vāyu*, alleviates thirst and burning sensations. It has a beneficial effect on skin, hair, voice and strength. It promotes cheerfulness, vitality and satisfaction, makes the body plump and firm, mends pectoral lesions, activates the functions of the nose, mouth, throat, lips and tongue. It removes internal burning sensations and fainting. It is extre-

211. *Caraka-saṃhitā* i.26.39-40 212. *Suśruta-saṃhitā* i.42 11-6. Tr B.

mely attractive to the bees and ants. It is unctuous, cold and heavy.

"In spite of these desirable qualities, if exclusively or excessively taken, it produces corpulence, softness, lethargy, hypersomnia, heaviness, loss of appetite or weakness of digestive fire, excess of flesh in mouth and throat, respiratory trouble, cough, coryza, intestinal torpor, algid fever preceded by cold. It causes constipation, an undesirable sweet taste in the mouth, vomiting, loss of consciousness and of voice; deradenoncus, chain of deradenoncuses, elephantiasis; swelling of throat; increase of mucus; discharge from bladder, vessels and throat; eye-diseases with excessive mucus; and similar other morbid conditions caused by the excess of *kapha*.

"The sour taste (i.e. a substance with *amla-rasa*) adds relish to the food; increases digestive fire and thereby builds up the body and invigorates it. It improves mental function (*manaḥ bodhayati*), sharpens the sense-organs, promotes strength and increases *vāyu*. It stimulates the heart (*hṛdayaṃ tarpayati*), increases salivation and thereby helps what is eaten to move downwards. It moistens, digests and gives pleasure. It is light, hot and unctuous.

"In spite of these desirable qualities, if exclusively or excessively taken, it sets the teeth on edge, causes morbid thirst, flinching of eyes and horripilation. It dissolves *kapha* and increases *pitta*, vitiates blood, makes the flesh sluggish and the body flabby, causes oedema in those that are thin, cachectic, emaciated and debilitated. Besides, because of its fire content, it causes pus formation in injuries due to wound, contagious bites, burns, fractures, swellings, dislocations, toxic urine or contact in other forms with venomous creatures, bruise, excision incision, separation, puncture, crushing, etc. In the throat, chest and heart, it causes a general burning sensation.

"The salt taste (i.e. a substance with *lavaṇa-rasa*) is digestive, liquefacient, appetising, defluxion-inducing, depletive and disruptive. It is acute (*tīkṣṇa*), mobile (*sara*) and radiant (*vikāsī*). It is laxative and de-obstruent. It cures *vāyu*, stiffness, obstruction and accumulations. It overpowers all other tastes and increases secretion in the mouth. It liquefies mucus-secretion, cleans the

passages, softens the body-limbs, gives relish to food and is always used in foods. It is neither very heavy nor very unctuous and it is hot.

"In spite of these desirable qualities, if exclusively or excessively used, it provokes *pitta*, over-increases blood, causes morbid thirst, fainting, great heat, disruption and corrosion of flesh. It causes skin-diseases, aggravates toxicosis, causes rupture to swellings and premature fall of teeth. It causes sexual impotence, impairs the functions of the sense-organs, induces premature wrinkles, grey hair and baldness...

"The pungent taste (i.e. a substance with *kaṭu-rasa*) purifies the mouth, stimulates gastric fire, desiccates the food, causes water to run from nose and eyes, invigorates the sense-organs, cures intestinal torpor, oedema, obesity, urticaria, excessive fluidity and unctuousness. It causes perspiration, softening and elimination of excreta. It adds relish to food, cures pruritus, removes excessive granulations and intestinal worms, lacerates the flesh, splits open the accumulation of blood, removes obstructions, dilates the passages and subdues *kapha*. It is light, hot and dry.

"In spite of these desirable qualities, if exclusively or excessively taken, it impairs sexual potency, induces stupefaction, causes weariness, asthenia, emaciation, fainting, flexion, choking, giddiness, a general burning sensation in the throat, excessive heat in the body, diminution of strength and morbid thirst...

"Further, because of the predominance of fire and air in it, it leads to various kinds of disordered *vāyu* affecting the legs, arms, sides and back, which are attended with giddiness, burning sensation, tremors and pains in the forms of pricking and stabbing.

"The bitter taste (i.e. a substance with *tikta-rasa*), though unpalatable, removes the general aversion for food. It is an antidote to poison and it destroys the intestinal worms. It cures fainting, burning, itching, skin diseases and morbid thirst. It makes the skin and flesh firm, cures fever, increases appetite, helps digestion and purifies breast-milk. It dries up moisture in fat, flesh-marrow, bone-marrow, lymph, pus, sweat, urine, faeces, *pitta* and *kapha*. It is dry, cold and light.

"In spite of these desirable qualities, if exclusively or excessively taken—because it is by nature rough, clear and dry—it dries up the organic sap, blood, flesh, fat, bone, bone-marrow, and semen. It makes the body channels shrink, saps up strength, causes emaciation, weariness, fainting, giddiness. It dries up the mouth and leads to various disorders of *vāyu*.

"The astringent taste (i.e. a substance with *kaṣāya-rasa*) is soothing and constipating. It sustains the body-elements, makes the swellings to shrink and the boils etc. to subside. It causes dryness and obstructions, reduces *kapha*, blood, *pitta* and other defiling elements in the body. It is dry, cold and heavy.

"In spite of these desirable qualities, if exclusively or excessively taken, it dries up the mouth, afflicts the heart, distends the stomach, adversely affects the voice, constricts body-channels, causes cyanosis and impairs sexual potency. It first retards and then only slowly allows the digestion of food. It inhibits the passing of flatus, urine, faeces and semen. It causes emaciation, weariness, thirst, stiffness. Further, because it is by nature rough (*khara*), clear (*viśada*) and dry (*rukṣa*), it causes various diseases due to *vāta*, such as hemiphlegia, spasm, convulsion and facial paralysis."[213]

In trying to follow these principles, the physicians are confronted with a practical problem. Most of the substances of nature are found to possess more than one *rasa*. So they prepare a list of sixtythree prominent types of substances possessing one or more *rasa*-s—15 in which 2 *rasa*-s predominate (*dvi-rasāni dravyāṇi*), 20 in which 3 *rasa*-s predominate, 15 in which 4 *rasa*-s predominate, 6 in which 5 *rasa*-s predominate, 6 in which a single *rasa* predominates and 1 in which all the 6 *rasa*-s are prominent.[214] This, they hope, serves the basic practical requirements of the doctors :

"In this manner are the substances divided into sixtythree groups according to the distribution of tastes. This number of sixty-three swells into an incomputable figure if the after-tastes are

213. *Caraka-saṃhitā* i.26.43.
214. *Ib.* i.26.15-7. Cf *Suśruta-saṃhitā* i.42.23. Tr B.

taken into count ; likewise if the comparative and superlative degrees of tastes are taken into consideration, the sum goes beyond computation.

"In view of the above, the experts conversant with the science of tastes have limited the practical requirements of medicine to 57 groups of combined tastes and 63 groups of all tastes, single or combined.

"The physician desirous of success, considering well the nature of the disease and the action of the remedy, must prescribe either a single taste or a combination of tastes as required.

"According to the disease, substances of two or more tastes or of combination of multiple tastes or of one only are used by wise physicians."[215]

The medical problem would have been quite simplified had such an understanding of substances based on their tastes been really adequate for the physicians' purpose. But the medical compilations give us a different impression. The ancient doctors themselves feel that, while trying to grapple with the problem of the effects produced by the substances in our bodies, they are confronted with a situation which is far more complicated than is covered by the formulations just quoted. Hence the texts introduce the concepts of *vīrya* or "potency-in-chief for producing medical effects", of *vipāka* or post-digestive change of a substance within the body and even of *prabhāva* or some peculiar operations of the substances on us, which, being frankly beyond the depth of their understanding, are viewed as mysterious. As Dasgupta observes,

"As none of the chemical effects (in the modern sense) of medicines on human organs were known, the most obvious way in which the medical effects of herbs, roots, etc., could be classified was on the basis of taste...But it is obvious that such a classification, though simple, could not be universally true ; for though the taste is some indication of the medicinal property of any substance, it is not an infallible one. But no other mode of classification was known ; it was supposed that the taste *(rasa)* of some substances changed altogether after digestion and

215. *Ib.* i.26.22-6. Tr G.

that in such cases the taste which changed after digestion *(pāka)* could be operative...But even this was not sufficient, for there were many other effects of medicine which could not be explained on the above suppositions. In explaining this, the theory of *vīrya* was introduced...It was only in the cases where no sensible data of any kind could be found to indicate the medical properties of the things that the idea of *prabhāva* was introduced. The chapters in Āyurveda on *dravya* and *guṇa* deal with the enumeration of *prabhāva* and also of *rasa, vipakā* and *vīrya*, wherever there is a divergence among them, *as determined by empirical observation.*"[216]

Emphasis is added above to show what at least partially saves the physicians' view of substance from dogmatic degeneration, into which their view of diseases obviously sinks. It is, in short, the fidelity to empirical data. This leads them to realise that the theory of the physiological effects of substances identified by their taste-qualities is in need of degeneralisation. As the *Caraka-saṃhitā* admits,

"Some substances with sour taste are observed to be constipative, while other substances with the same sour taste are observed to be laxative. Thus, for example, both wood apple (*kapittha*) and emblic myrobalan (*āmalaka*) are sour in taste. But the former is constipative and the latter laxative. Again, though substances with pungent taste are contra-aphrodisiac, long pepper (*pippalī*) and dry ginger are aphrodisiacs. Substances with astringent taste are constipative...but chebulic myrobalan is otherwise. Therefore, all substances are not to be judged by their tastes alone, because, as we have just seen, substances may possess the same taste and yet differ from each other in medicinal proprties."[217]

One way in which the doctors amend their general theory of how substances affect our body is to introduce the concept of *vipāka*. Roughly it means the post-digestive change of a substance. Thus, though generally speaking the way in which a substance affects our bodies is to be judged by its taste, the doctor has also to take note of the transformation of the nature

216. Dasgupta ii. 365-6.

217. *Caraka-saṃhitā* i.26.50-2.

of the substance resulting from the process of its digestion. A substance with sweet taste may retain the usual properties of a sweet substance even after it is digested, but the process of digestion may also change it so basically as to make it acquire the properties usually characteristic of a substance say with sour taste. In Āyurvedic terminology, the former would be a case of the *vipāka* of sweet into sweet, while the latter a case of the *vipāka* of sweet into sour. The physicians hope to see some general rules concerning even this phenomenon called *vipāka*. As the *Caraka-saṃhitā* formulates,

"Generally speaking, substances with pungent, bitter and astringent tastes are, on post-digestion, changed into substances having ordinarily the pungent taste. Substances with sour taste remain after digestion substances with sour taste, and so also the *vipāka* of sweet is sweet. By *vipāka*, however, substances with salt taste are transformed into substances with sweet taste".[218]

But the doctors apparently realise that such a formulation cannot be mechanically followed. The better course is to study as far as possible the *vipāka* or post-digestive changes of different concrete cases. Here are a few examples of innumerable studies like this.

Though many varieties of rice are sweet both by taste and post-digestive effect,[219] the *vrīhi* rice is "sweet in taste and acid on post-digestion."[220] The flesh of iguana is astringent and pungent in taste, but it becomes sweet by *vipāka*.[221] The flesh of pangolin is sweet and sour in taste, but it becomes pungent by *vipāka*.[222] The flesh of green parakeet is astringent and pungent in taste, and it becomes pungent by *vipāka*.[223] The flesh of the black buck is sweet both in taste and by *vipāka*.[224] And so on. The full list of such instances mentioned by the *Caraka-saṃhitā* would indeed be a very long one.

Apparently, the medical effects of the large variety of substances as actually observed by the ancient physicians are not fully explained by the assumption of taste *(rasa)* and post-diges-

218. *Ib.* i. 26.57-8. 219. *Ib.* i.27.10. 220. *Ib.* i.27.15.
221. *Ib.* i.27.70. 222. *Ib.* i.27.71. 223. *Ib.* i.27.71.
224. *Ib.* 27.77-8.

tive change *(vipāka)*. It seems that this leads them to introduce another concept, which they call *vīrya*. Dasgupta translates it as "potency-in-chief for producing medical effects."[225] The *Caraka-saṃhitā* defines it as that by which a substance acts on our bodies *(yena kurvanti tat vīryam)*[226] and adds :

"The taste of a substance is felt when the substance first comes in contact with the tongue, the *vipāka* of a substance is felt when the substance produces its final effect. But the *vīrya* of a substance is felt throughout its presence in the body, beginning with the first contact of the substance with the tongue."[227] Apparently, the *vīrya* or potency of a substance is medically much more important than its taste *(rasa)* and post-digestive effect *(vipāka)*.

The ancient doctors do not give us the impression of a clear and agreed understanding of potency or *vīrya*. But there are some indications in the medical compilations from which we may perhaps guess what they are groping for. The *Caraka-saṃhitā* says,

"According to some, potency has eight forms. These are soft (*mṛdu*), acute (*tīkṣṇa*), heavy (*guru*), light (*laghu*), unctuous (*snigdha*), dry (*rukṣa*), hot (*uṣṇa*) and cold (*śītala*). According to others, potency has two forms. These are hot and cold. Potency is that by which a substance actually acts. Shorn of potency, there is no action at all. All actions are due to potency. (*vīryaṃ tu kriyate yena yā kriyā/na avīryaṃ kurute kiṃcit ; sarvā vīrya-kṛtā kriyā*)."[228]

We have already come across in the *Caraka-saṃhitā* what is mentioned here as the different forms of potencies or *vīrya*-s, which, according to some are eight while according to others are two. But these are mentioned elsewhere as belonging to the list of "twenty qualities" (*viṃśati guṇāḥ*). cryptically expressed as "heavy etc. ending with the liquid" (*gurvādayaḥ dravāntāḥ*).[229] Of these twenty "qualities", we have discussed two, viz. "heavy" and "light", and we have seen that these are called "qualities" not in the ordinary sense of being the

225. Dasgupta ii.364. 226. *Caraka-saṃhitā* i.26.13. 227. *Ib.* i.26.66.
228. *Ib.* i.26.64-5. 229. see *supra* p. 68.

direct objects of sense-organs, but in the technical sense of being pointers to the matter-composition of substances : a substance with the predominance of fire and air is "light", while one with the predominance of earth and water is "heavy." Not that the *Caraka-saṃhitā* provides us with any exhaustive discussion of the kind of matter-composition indicated by the other "qualities" included in the same list. Since, however, the evidence of what is clear cannot be set aside by what is not so, what is on the whole clear in the case of "heavy" and "light" leaves us with the presumption that by the other eighteen "qualities" of the same list the ancient physicians are trying to understand in their own way the matter-compositions of various substances. If so, what are called "qualities" in this list—or the more prominent ones in the list—are only likely to be viewed as forms of the real potency or *vīrya* of substances, because in the medical view all substances are made of matter and hence whatever action a substance may have must be ultimately determined by its matter-composition. In other words, once the substances are viewed as made essentially of matter, the peculiar potency or *vīrya* of a substance can only be because of its peculiarity of matter-composition.

We do not expect the ancient doctors to work out a comprehensive view of the actions of different substances as determined by their matter-composition. Neither in the *Caraka-saṃhitā* nor in the *Suśruta-saṃhitā* we read of any systematic attempt at it. But the doctors find it impossible to evade the question of how all sorts of natural substances act on our bodies. In trying to answer this with their views of *rasa* (taste), *vipāka* and *vīrya*, they want to evolve some formula correlating the three. Such a formula, as found in the *Caraka-saṃhitā* is : A substance which is sweet in both *rasa* and *vipāka* is "cold" in potency, while a substance which is either sour or bitter in both *rasa* and *vipāka* is "hot" in potency.[230] Apart from the difficulty evidently felt by the text to be very clear about the nature of matter-composition indicated by "cold" and "hot", the fact remains that the ancient doctors themselves realise that such

230. *Caraka-saṃhitā* i.26.45.

a formula cannot be fully tenable, inasmuch as it often fails to agree with what is actually observed by them. Thus, for example, the flesh of aquatic and wet-land animals is sweet in taste but "hot" in potency, as are many other cases actually observed to go against the formula.[231] Hence the *Caraka-saṃhitā* warns the doctors against mechanically relying on the formula.[232] Here again we see how the empirical data partially save the medical theory of substances and their actions from dogmatic degeneration.

All this brings us back to one of the main points we have been trying to emphasise. To the theoreticians of Indian medicine comes down an enormous amount of empirical data compiled presumably by generations of ancient healers, who might have been the roving physicians—the *cāraṇa-vaidya*-s or *caraka*-s, from whom our medical compilation receives its name. These theoreticians, in trying to build up a rational system of medicine or *yukti-vyapāśraya-bheṣaja*, outgrow the old standpoint of magico-religious medicine or *daiva-vyapāśraya-bheṣaja*. Thus rejecting supernaturalism and mysticism, they are led to view all healing agents simply as material substances of nature. These healing agents are mostly intended to be consumed by the patients and hence—excepting for some preparations of oils, pastes, etc, recommended for external application—the medical compilations want on the whole to identify drugs with diets. According to the *Caraka-saṃhitā*, a synonym for *bheṣaja* or medicine is *pathya* or food.[233] Hence is the great importance of food in the medical view. It is food in the form of various natural substances that goes to the making of man and determines his conditions called health and disease. But these natural substances are made of matter, hence also everything about man. This leads the ancient physicians to realise that the real crux of the medical problem is that of the interaction between enviornmental matter and body-matter. The principles of rational medicine thus lead to the materialist world-view.

Historically, however, this materialism is inevitably a naive

231. *Ib.* i.26.48-9. 232. *Ib.* i.26.48. 233. *Ib.* vi.1C.3.

one. The ancient doctors are only beginning to understand the nature of matter. They are in no position to go deeper than the view of it as earth, water, air, fire and *ākāśa.* All this enables us to see the grandeur as well as the limitations of their theories. Their realisation of the profound significance of the interaction between environmental matter and body-matter is of abiding importance for the history of science. But the attempt to solve the problem of this interaction in terms of *pañca-bhūta* theory is the most serious limitation of Āyurveda. This limitation becomes particularly serious in so far as the doctors are lured by the fascination for theoretical completeness, which creates for the medical theorics the risk of dogmatic degeneration. The effort to understand all substances of nature with the theory of matter is five forms is just impossible, though in this case what seems partially to save the medical theory from dogmatism is its strong mooring is empiricald ata. Though trying to determine the nature of substances and their medical effects by the tastes (*rasa*-s), the ancient doctors feel the need of introducing the concepts of *vipāka* and *vīrya* so that their theory can retain fidelity to what is actually observed about the effects of various substances on our bodies. But even such amendments do not fully succeed. While trying to remain true to their empirical data, the theoreticians of ancient medicine have virtually to confess that the way in which enviornmental matter acts on body-matter is often beyond the depths of their understanding. This is evidenced by their theory of *prabhāva,* which Dasgupta translates as "the mysterious operation of a medicine acting in an unaccountable way."[234] Here is what the *Caraka-saṃhitā* says about *prabhāva* : "When, in spite of the similarity between taste (*rasa*), potency (*vīrya*) and post-digestive change (*vipāka*), two substances are actually observed to differ in their actions—such difference is to be accounted for by the *prabhāva.* Thus, for example, *citraka* (*Plumbago zeylanica*[235]) is pungent in taste (*rasa*) as well as in post-digestive effect (*vipāka*), and it is hot in potency (*vīrya*). So also is *dantī* (*Baliospermum monpanum*[236]). Still (unlike the former), when the latter is adminis-

234. Dasgupta ii. 364. 235. Balwant Singh & Chunekar 156. 236. *Ib*. 200.

tered to a man, it is found to have a purgative action. This difference is due to the *prabhāva*. Similarly, when poison itself is found to counteract the effects of poison, the real cause is to be viewed as *prabhāva*. Again, whether a substance should act on the morbidity in the upper part of the body or in the lower part of the body, is determined by its *prabhāva*."[237]

But what exactly is meant by *prabhāva*? The *Caraka-saṃhitā* comes out with the frank admission that at the stage of knowledge represented by it, *prabhāva* is something beyond the comprehension of the doctors : *prabhābaḥ acintyaḥ ucyate*.[238] To this may be added what the *Suśruta-saṃhitā* says : "Why should certain drugs have by nature certain specific efficacies can neither be settled by arguments nor fully explained. Hence the wise physician should prescribe those according to the medical wisdom recorded in the authoritative works."

amīmāṃsyāni acintyāni prasiddhāni svabhāvataḥ /
āgamena upayojyāni bheṣajāni vicakṣaṇaiḥ //[239]

Thus, with all the gropings for the understanding of the nature of substances and of their actions on our bodies—gropings, in other words, for the knowledge of the interaction between environmental matter and body-matter—the ancient physicians feel in their own way that they can comprehend it only up to a certain preliminary stage, and not beyond that. There remain unsolved problems about the way in which the natural substances affect our bodies and it is unwise for the early scientists to offer any definite theory about it.

This honest acknowledgement of the limits of their science may not be unrelated to their materialist outlook, because—as contrasted with religion and idealist philosophy which pretend to attain final and absolute truth—one characteristic of materialism is the admission of problems yet unsolved. "Materialism clearly formulates the as yet unsolved problems and thereby stimulates the attempt to solve it."[240] If the ancient doctors fail to remain true to this spirit about the problem of aetiology of diseases, their fidelity to empirical data enables them to retain

237. *Caraka-saṃhitā* i.26.67-9. 238. *Ib.* i.26.70 239. *Suśruta-saṃhitā* i 40.22. KSS-ed. 240. Lenin MEC 33.

it at least to a considerable extent in their understanding of the substances.

26. LAWS OF NATURE : KNOWLEDGE AND POWER

It is evident from what is already discussed that all aspects of Āyurvedic theory do not have for us the same interest. The view, for example, that all diseases are due to the three waste-products of food—*vāyu*, *pitta* and *kapha*—is not of abiding significance for the history of science. But the realisation that science consciousness demands an affiliation to the materialist view continues to have significance even for our times. We shall note here a few more features of Āyurvedic theory connected with the latter.

In the passage of the *Suśruta-saṃhitā* last quoted, it is admitted that the efficacy of certain drugs cannot, be determined by arguments, nor can it be fully comprehended at the stage of medical research represented by the text. At the same time, it is emphasised that there is nothing about the phenomenon to make the doctor submit to any supernatural view of things. Such an efficacy belongs to the drug because of its inherent nature : *prasiddhāni svabhāvataḥ*. What exactly does this mean ? Elsewhere the text gives a very clear answer to this : "The understanding of certain substances as heavy and of others as light must be considered as being determined by nothing but their inherent nature or *svabhāva*" : *guru-lāghava-cintā iyaṃ svabhāvaṃ na ativartate.*[241]

Here is the typical example with which this is illustrated. The flesh of aquatic and wet-land animals is heavy (*guru*) while that of the *jāṅgala* animals is light. Why is this difference between the two ? For the ancient physicians, there is ultimately only one answer to this. The difference is due to their inherent nature or *svabhāva*. Put in modern way, this means that the difference is due to the laws of nature.

241. *Suśruta-saṃhitā* i.46.448 KSS-ed.

In this connection, the *Suśruta-saṃhitā* wants to go into greater detail of the problem. It discusses how, when a substance is qualitatively changed, it acquires altered *svabhāva*. Thus, for example, though the *vrīhi* rice is by nature heavy, when baked in heated sand and transformed into puffed paddy the latter becomes by nature light.[242] But let us not go here into the complicated details of all these. Let us concentrate instead on the more basic point, namely that of the importance of the view of the law of nature or *svabhāva* for Āyurveda. The *Caraka-saṃhitā* gives us some glimpses of this. Certain substances—call these drugs of diets—are observed to have certain specific actions on our bodies. The ultimate explanation of this is to be sought in the view of *svabhāva* or law of nature. As the text puts it,

"It is only because of *svabhāva* that water moistens, salt liquefies, alkali digests, honey synthesises, ghee adds to unctuousness, milk promotes vitality, flesh adds to strength, flesh-broth nourishes, alcohol inebriates (*jarjarīkaroti*), *sīdhu* wine emaciates, grape wine stimulates digestion, liquid molasses causes accumulation of morbid matter, curd produces oedema, the *pinyaka* plant causes depression."[243]

A definite philosophical position is involved in this medical assertion, for the understanding of which let us first refer to certain "authentic popular verses" (*prāmāṇika-lokagāthā*) current in the country from a distant past. Mādhavācārya, in his *Sarva-darśana-saṃgraha*, quotes one :

"Fire is hot, water cold and air is neutral (neither hot nor cold) to touch. By whom are all these created ? Because of *svabhāva* these are so."[244]

Commenting on Haribhadra's *Ṣaḍ-darśana-samuccaya*, Guṇaratna quotes other verses :

"Who makes the thorn sharp ? And the beasts and birds so varied ? All these come into being by *svabhāva*. There is none whose desire makes them so.

It is useless to postulate anybody's will to account for these.

242. Devendranatha & Upendranatha Sengupta 261. 243. *Caraka-saṃhitā* i.27.4. 244. Mādhava *SDS* Anand-ed. 4.

The thorns of the palm-tree are sharp. Some of these are straight, others twisted. But its fruits are round. Tell us, who could have shaped these ! (That is, there is none like that.)"[245]

Where these verses differ from the medical texts is on the instances selected to illustrate the view. Why is fire hot and water cold ? The only answer is that these are due to *svabhāva* or laws of nature. Why is the flesh of aquatic animals heavy, while that of the *jāṅgala* animals light ? The answer again is the same. These are so because of *svabhāva* or laws of nature. But the popular verses just quoted are from the two most famous compendia of Indian philosophy. The authors of these compendia mention the popular verses to clarify the philosophical implications of the "view of *svabhāva*". What then are these implications ?

Mādhavācārya explains that the view is characteristic of the materialists, who are keen on deying the law of *karma*, and hence also the concept of *adṛṣṭa* or the "unseen" effects of past actions determining everything. At the same time they want to prove that this does not oblige them to accept "accidentalism", the view that everything in nature is due to pure accident or chance. Apart from these two alternatives there is a third way of looking at things. In this view, everything in the world is due to the laws of nature or *svabhāva*. As Mādhavācārya makes the materialists argue : "But an opponent will object : 'If you thus reject *adṛṣṭa*, you would be obliged to admit that all phenomena of the world are just fortuitous *(ākasmika)*.' The materialists answer : 'The objection is unsustained, inasmuch as the causation of all phenomena is adequately explained by *svabhāva*'."[246]

Guṇaratna says, "The naturalists *(svabhāvavādinaḥ)* argue as follows. By *svabhāva* is meant that the transformation of objects is due to their inherent nature (i.e. without the interference of any supernatural agency). Everything that exists comes into being because of the laws of nature *(svabhāva)*. Thus, for example, clay is transformed into pot and not into cloth, etc. ... From the threads again is produced the cloth,

245. Guṇaratna *TRD* 30. 246. Mādhava *SDS* 4.

and not the pot etc. Such regular occurrences cannot happen without the operation of *svabhāva* ... Therefore everything is to be finally viewed as due to *svabhāva* ... Let alone the causes of other effects, even the boiling of beans *(mudga)* cannot take place without *svahhāva*. Thus in spite of the presence of the cooking pot, fuel, time, etc., the boiling of *kaṅkaduka-mudga* (another form of bean) is not possible ... Even the boiling of beans then depends on *svabhāva*. So it is concluded that all phenomena are due to *svabhāva*."[247] One of the main points of this view, Guṇaratna takes care to emphasise, is the defence of the causal law specially against "accidentalism" which, while denying supernatural causation, rejects the concept of causality as such. Guṇaratna explains "accidentalism" specially for contrasting it with the view of *svabhāva* : "Accident *(yadṛcchā)* means the occurrence of a phenomenon without being determined by anything. Now, who are the champions of this view ? Those who do not admit any cause-effect relation of the phenomena as occurring in a series—i.e. those who consider these as due to pure chance—are the defenders of accidentalism. This is how they argue : No regular cause-effect relation among the phenomena can be admitted, because such a relation cannot be proved by any valid way of knowing. Thus it is observed that the lily grows out of a lily as well as out of cow-dung. Fire is produced by fire as well as by the flints. Smoke originates from smoke as much as from fire-cum-fuel. The plantain tree grows out of the stem as well as out of the seed .. Therefore, there is nowhere any regular cause-effect relation. This means that things are caused by pure chance. The wise are those that do not unnecessarily bother themselves to discover the cause of things."[248]

It is not difficult to see why such a view should be completely unacceptable to the ancient physicians. The admission of the causal principle is absolutely essential for their science. We have already mentioned the reasons for this and we quote Dasgupta who rightly emphasises this point : "We know that Āyurveda was primarily concerned with three questions, viz.

247. Guṇaratna *TRD* 13. 248. *Ib.* 15.

how diseases originated, how they were known, and what were their cures. It was in this connection that the principle of causality was first from a practical necessity appiled in Āyurveda."[249] The rejection of accidentalism is thus imperative for the ancient physicians. What Dasgupta does not note, however, is that it is equally imperative for them to reject the view of *karma* and *adṛṣṭa* : if it is imagined that both disease and cure are completely determined by the actions performed by the patients specially in their past lives, medical science as such can be left with no intrinsic efficacy of its own. In defence of their science, therefore, the physicians are obliged to reject accidentalism as much as the law of *karma*. Logically at any rate they are left only with the third possibility and that is to accept the view of *svabhāva*.

But the question is : How far do the medical compilations clearly commit themselves to the view of *svabhāva* ? Some confusion about this is created by the extant *Suśruta-saṃhitā*, one of the frequently quoted passages of which[250] apparently attributes to the physicians a somewhat garbled philosophical position. According to this, they accept the view of *svabhāva* along with certain other views that go flatly against it, like accidentalism. Phaṇibhūṣaṇa Tarkavāgīśa[251] has already discussed the problem raised by this for the commentators of the *Suśruta-saṃhitā*, though it is significant that among them the earlier ones like Ḍalhaṇa and Jejjaṭa seem to explore the possibility of how best to commit the physicians to the view of *svabhāva*.

For a better understanding of the view of *svabhāva* in the Āyurvedic theory we may leave this rather doubtful passage of the *Suśruta-saṃhitā* in its present form and turn more profitably to certain passages of the *Caraka-saṃhitā*. When we do this we can clearly see that the view of *svabhāva* or laws of nature goes to the formation of the very concept of Āyurveda and that moreover in trying to develop such an understanding of Āyurveda the ancient physicians seem to

249. Dasgupta ii.396
250. *Suśruta-saṃhitā* iii.1.15. KSS-ed.
251. Phaṇibhūṣaṇa Tarkavāgīśa ND (Bengali) iv.148f.

anticipate the modern idea that knowledge is power. It may be convenient for us to begin with the latter point, a few words on which serve to introduce the way in which the ancient doctors propose to understand their science.

As we have repeatedly seen, the physician's knowledge consists mainly of all sorts of material things or natural substances and of their actions on human body—the knowledge on which depends his therapeutic technique of adjusting the interaction between environmental matter and body-matter. But the physicians are anxious to explain that this technique is not to be misunderstood. The interaction between environmental matter and body-matter takes place according to the laws of nature, and, as laws of nature, these are immutable. The physicians cannot tamper with these laws in any way. They can neither create these laws nor alter their course of action. All that they can do is to acquire better insight into these laws, so that their natural course is best utilised in the interest of the patient, i.e. to ensure his health or cure his diseases. This is easily explained with the analogy of fire. Fire burns or radiates heat, and this because of the laws of nature. There is no way of changing the law itself. But there are ways of using the knowledge of this law to serve our purposes—inclusive of medical purposes, as for example, in cauterization and cooking, two of the most useful techniques from the standpoint of ancient Indian medicine.[252]

Thus, all the mastery over nature that the doctor can aspire after is conceived in terms of the knowledge of nature. If anywhere in ancient Indian thought we are permitted to see the real anticipation of the view that knowledge is power—which, when further worked out, assumes the formulation that freedom is the recognition of necessity—it is to be found among the practitioners of the healing art.[253] But it is not easy for the ancient

252. Proficiency in ten techniques is essential for a physician ; one of these is cooking : see Keswani 27, Mehta i.188. A great deal of importance is attached to cooking also in the *Ancient Medicine* (Jones i.17f), from which Farrington (GS 67) argues that Greek medicine owes much to the cook.

253. The power attributed to knowledge in the Upaniṣads is primarily

scientists to develop expressions adequate for conveying such a profound view. Here is one of the ways in which they grope forsuch expressions : "Like poison, like weapon, like fire, like lightning—the drug whose nature is not understood remains a source of unknown terror. When understood, however, it proves as beneficial as nectar."

yathā viṣaṃ, yathā śastraṃ, yathā agniḥ aśaniḥ yathā/
tathā auṣadham avijñātaṃ vijñātam amṛtaṃ yathā//[254]

This is an ancient way of putting the point no doubt. But the point itself is not primitive. Fire, poison, etc. are for us sources of disaster only so long as their real nature remains un-understood. But as we acquire insight into these, we can use these for our great benefit. So also is the case of the drugs. Knowledge is power.

Elsewhere in the *Caraka-saṃhitā* basically the same idea is expressed in a way which may at first appear to be quite peculiar. We have to re-read it to see its real implication. It is argued that Āyurveda—in the sense of a body of natural laws—is beginningless or *anādi*, because nature exists from a beginningless past and, along with nature, the laws that are inherent in it. Medical science can be said to have a beginning only from the standpoint of acquiring the knowledge of these laws or of spreading the knowledge. So also it is necessary not to misunderstand the meaning of the therapeutic technique. Diseases are cured not by any artificial technique of which the doctors are the inventors. These are cured by the laws inherent in nature. which the doctors can only know and rightly apply. Here is how the *Caraka-saṃhitā* tries to express all this :
"Āyurveda is called eternal, because it is without beginning, because it is nothing but the laws inherent in nature *(svabhāva-saṃsiddha-lakṣaṇāt)* and because the natural properties of the real substances are unalterable *(bhāva-svabhāva-nityatvāt)*. There had never been any break in the continuous stream of life, nor in the continuous stream of knowledge. Living beings are always there. Pleasure and pain—along with the substances

magical and mystical : see Chattopadhyaya WLWD 120 ff.
254. *Caraka-saṃhitā* i.1.24.

causing these—are beginningless, because so are their interdependent relations. The subject-matter of medical science is this: body-materials that are heavy or light, cold or hot, unctuous or dry, etc, increase or decrease by the repeated use of like and unlike substances respectively. Thus, that which is heavy in the body increases and that which is light in the body decreases by the continued consumption of substances that are heavy, and conversely (that which is light in the body increases and that which is heavy decreases by the repeated consumption of light substances). Such inherent nature of substances is beginningless, as is the inherent nature of matter in earth-form etc. But the substances themselves and their properties may or may not be permanent *(eṣaḥ bhāva-svabhāvaḥ, nityaḥ, svalakṣaṇaṃ ca dravyāṇāṃ pṛthivī-ādīnām ; santi tu dravyāṇi guṇāḥ ca nitya-anityāḥ).*

"Apart from the restricted sense of acquiring this knowledge and of spreading it, there is no meaning in saying that medical science came into being having been non-existent before. It is indeed only with reference to these two circumstances (i. e. of acquiring the knowledge of the laws of nature and of spreading such knowledge), that the origin of Āyurveda is alluded to by some. But there is nothing about these laws (and therefore about medical science, which is only a body of these laws) that is created by anybody *(akṛtaka)*. As is said in the present chapter as well as in the first chapter, these laws are but the laws of nature *(svābhāvika)*—just like the laws because of which fire is hot and water liquid."[255]

The point mentioned last needs to be very carefully noted: *svābhāvikaṃ ca asya lakṣaṇam akṛtakaṃ yat uktam iha ādye adhyāye ca ; yathā agneḥ auṣṇam apāṃ dravatvam.* From the need felt to repeat the same point already stated earlier, the importance intended to be attached to it is obvious. The view of the laws inherent in nature—technically known as *svabhāva* in Indian philosophy—is an essential postulate of medical science. It is specially emphasised in the passage just quoted that, without the assumption of such immutable laws, what is

255. *Ib.* i.30.27.

considered as the main point of the therapeutic technique by the ancient doctors remains inexplicable. It is because of such laws that the excessive absorption or lack of absorption of an environmental matter by man results in the excess or diminution in him of body-matter in some form. And disease means nothing but this. It is because of these laws of nature, again, that the absorption of counter-matter by body-matter results in the restoration of the balance of body-matter, which, in other words, means cure. These laws of nature are inviolable—as inviolable as those because of which fire is hot and water liquid. There is no way of changing these laws. Still the physician can and does intervene. He cures sickness and helps people to maintain good health. But he does this not on the strength of any artificial technique invented by him for the purpose of flouting these laws of nature. What is possible for him is to know these laws and thereby to make the best use of these in the cause of the patient. Since these laws are beginningless and since medical science is nothing but the knowledge of these laws, it is impermissible to imagine that medical science came into being at some particular time, having been non-existent before. Only from the viewpoint of knowing these laws and of propagating their knowledge can one speak of the origin of medical science.

Thus the fundamental postulates of Āyurveda are : 1) everything in nature takes place according to the laws inherent in nature, 2) though immutable, these laws are nevertheless knowable, and 3) the knowledge of these laws brings power over nature, which, medically speaking, means ensuring long life. Only with these points in mind, we can see the real significance of the basic understanding of Āyurveda given in the *Caraka-saṃhitā*. As a preliminary definition of the science, the text says :

"That is called Āyurveda in which is explained and proved what is good and what is bad for life, what is pleasant and what is painful for life, what is wholesome and what is unwholesome for life."[256]

But the question is : How can the physicians hope to prove

256. *Ib.* i.1.41.

and explain what is good etc. for life ? There is only one answer to it. They have to study the inherent nature of different substances and the laws according to which these act on our bodies. Hence the *Caraka-saṃhitā* adds,

"It is called Āyurveda, because it gives knowledge of long life. But how does it give this knowledge ? The answer is as follows : It is called Āyurveda because—depending on definite proofs and disproofs—it gives us the knowledge of substances, their qualities and actions, as these are by their inherent nature and (by this inherent nature) cause pleasure or pain, prove wholesome or unwholesome, promote or adversely affect long life" : *tat āyuḥ vedayati iti āyurvedaḥ. katham iti cet ? ucyate : svalakṣaṇataḥ sukha-asukhataḥ hita-ahitataḥ pramāṇa-apramāṇataḥ ca yataḥ āyuṣyāṇi-anāyuṣyāṇi ca dravya-guṇa-karmāṇi vedayati ataḥ api āyurvedaḥ.*[257]

All these make sense only when it is assumed that there are definite laws according to which the natural substances affect our bodies, that these laws are knowable—i.e., in the Āyurvedic terminology, are subject to definite proofs and disproofs—and that therapeutic success essentially depends on these laws.

We have discussed all these mainly to emphasise one point. The view of *svabhāva* or of nature being governed by laws of its own is essential for Āyurveda. Why should a natural substance with its specific matter-composition affect the matter-composition in our bodies in a specific way is, in the physician's view, determined only by the laws of nature or *svabhāva*. The commitment to the view of *svabhāva* is indispensable for Āyurveda. But it is also a risky commitment, because Indian orthodoxy considers it as characteristic of the materialists, and hence as something highly heretical.

The *Mahābhārata* pointedly asserts that those who think only in terms of matter subscribe to the view of *svabhāva* : *svabhāvaṃ bhūta-cintakāḥ.*[258]

Since in Indian philosophy, plain-speaking materialism is usually called Lokāyata or Cārvāka, other sources attribute the view to its followers. Commenting on *Bṛhatsaṃhitā*, Bhaṭṭa

257. *Ib* i 30.23. 258. *MBh* Śānti ccxxxii. 19.

Utpala says, "Others, i.e. the Lokāyatas claim that the cause of the world is *svabhāva.* From *svabhāva* arises this variegated world and because of *svabhāva* it eventually comes to its end."[259] Agnicit Puruṣottama asserts, "According to the Cārvākas, *svabhāva* itself is the cause."[260] The authors of the compendia of Indian philosophy like Haribhadra and Mādhava take care to show how important is this view for the Lokāyatas or Cārvākas.

In accordance with all this, it has practically become a part of the commonsense of the modern scholars to assume that the view of *svabhāva* is characteristic of the Lokāyatas. We quote here two eminent authorities. Gopinath Kaviraj says, "The earliest representatives of the extreme form of *svabhāva-vāda* seem to have been a set of free thinkers in ancient India, who were originally called the Lokāyatas but subsequently came to be more widely known under the name of Cārvākas. Rank materialism, an absence of belief in the 'unseen' and of regard for authority, an uncompromising rationalism—more properly causistry—were their original characteristics."[261] Hiriyanna observes, "What needs to be noticed about it (*svabhāva-vāda*) first is its positivistic character which is implied by the contrast that is sometimes drawn between it and the *adṛṣṭa-vāda* or 'belief in the supernatural'. In this it differs from the supernaturalism of the Mantras-s and Brāhmaṇa-s on the one hand, and on the other from the metaphysical view of the Upaniṣads. This positivistic character of the teaching—its 'mundane metaphysics'—seems to have been the original significance of the term *lokāyata* ('restricted to the experienced world') more generally applied to the doctrine in later literature."[262]

It is not the place for us to discuss the Lokāyatas. What motivates these philosophers to develop or accept a form of uncompromising materialism is a question outside our present scope. But it is important to note one point. According to the standard interpretors of Indian philosophy, their view of *svabhāva* is a necessary corollary of their materialism. The reason

259. Quoted by G. Kaviraj in SBS ii.95n. 260. *Ib.* ii.98n.
261. *Ib.* ii.95. 262. Hiriyanna 104.

given for this is quite simple. Materialism necessitates the rejection of supernaturalism—specially the view of *karma* and *adṛṣṭa*—i.e. supernaturalism in the form in which it is most widely current in ancient India. This could be done in two ways. First, by viewing all phenomena in nature as determined by the laws of nature or *svabhāva.* Secondly, by accepting pure accidentalism or *yadṛcchā-vāda,* which means the surrender of the concept of causality as such. It seems that in ancient India the latter is deprecated as a mark of philosophical disrespectability, because it amounts to the surrender of the philosopher's work of explaining things. In any case, the materialism of the Lokāyatas is equally repugnant to accidentalism and supernaturalism. Hence it finds the view of *svabhāva* obligatory for itself.

With this clarification about the implication of the view of *svabhāva* in the general context of Indian thought, we may now return to the position of the ancient Indian physicians. We have already seen how they are led to realise that at least for the restricted purpose of medical science the materialist outlook alone is relevant. But the physicians are not philosophers. Hence there is no ground to think that they are led by considerations of logical consistency alone to accept the view of *svabhāva* as a necessary corollary of the materialist outlook, as the Lokāyatas apparently do. Still the fact is that this view of *svabhāva* is as much required by their general theoretical understanding as the materialist outlook itself. In other words, they can easily see why their science becomes impossible without rejecting supernaturalism on the one hand and accidentalism on the other. Supernaturalism—specially in the form of the law of *karma* and *adṛṣṭa*—requires that health and disease are determined ultimately by the actions performed by the patient in his past life. Since in the Indian view the law of *karma* is absolutely omnipotent—since, in other words, there is no way whatsoever of modifying the course of events being determined by actions once these are performed[263]—the acceptance of supernaturalism in this form leaves medical science with no

263. E.W.Hopkins in JRAS. 1906 : 'Modification of Karma Doctrine.'

efficacy of its own. It is supernaturalism not in the sense of the course of events being determined by a personal god, whose will the believers can at least hope to influence by prayer and propitiation. Supernaturalism in the form of the law of *karma* is far more relentless than that : even the mighty gods are supposed to be helpless pawns before it. How then can the physicians at all talk of their therapeutic technique without rejecting it ?

So also is their need for rejecting accidentalism, according to which nothing in nature has a cause. We have already seen how the concept of causality is considered essential by the *Caraka-saṃhitā* for all schools of medicine, howsoever these may mutually differ on other points.[264]

Thus the rejection of accidentalism is as imperative for Āyurveda as the rejection of supernaturalism. With the rejection of these two, Āyurveda is left with only one possibility. It is the acceptance of the view of *svabhāva.*

The rejection of accidentalism or *yadṛcchā-vāda* may not have a serious political risk. But the rejection of supernaturalism is not so—specially the rejection of *karma* and *adṛṣṭa.* Supernaturalism in this form is sanctified by powerful priestly corporations and it is the main ideological prop of the hierarchical society defended by the Indian law-givers. The different castes in which different persons of the *varṇāśrama* society are born are supposed to be determined by the kind of actions they perform in their previous lives. Further, the law-givers want people to believe that this view of the castes being determined by the actions of past lives has direct scriptural sanction. Already in the *Chāndogya Upaniṣad* it is declared : "Accordingly, those who are of pleasant conduct here—the prospect is, indeed, that they will enter a pleasant womb : either the womb of a Brahmin, or the womb of a Kṣatriya, or the womb of a Vaiśya. But those who are of stinking conduct here—the prospect is, indeed, that they will enter a stinking womb : either the womb of a dog, or the womb of a swine, or the womb of an outcast (Caṇḍāla)."[265] From the law-giver's

264. see *supra* p. 22. 265. *Ch. Up.* v.10.7.

point of wiew, therefore, it is a heresy and a sacrilege to question *karma* and *adṛṣṭa*. The defence of the view of *svabhāva*, in so far as it entails the rejection of supernaturalism in this form, is obviously of considerable political risk.

What then are the physicians to do if the general theoretical requirements of their science necessitate the acceptance of the view of *svabhāva* ? From the extant *Caraka-saṃhitā* it appears that at least some of the early theoreticians of medicine boldly face the risk. Thus, apart from some of the passages of this medical compilation we have already quoted showing clear acceptance of the view, the earliest theoretician of Āyurveda mentioned as Bharadvāja remains a staunch defender of it. But the later editors or reconstructors of the work apparently hesitate. To evade the censorship of the law-givers they not only make a show of converting Bharadvāja to a follower of orthodoxy but also graft on the text long discourses ennobling the view of *karma* and rebirth, going so far as to be reckless to the internal consistency of the medical work. But notwithstanding all the later grafts of orthodox religious views on the text, its later reconstructors do not go to the fanatical extent of destroying or obliterating the theoretical positions once achieved by Indian medicine. This gives the extant *Caraka-saṃhitā* a peculiar appearance. The metaphysical and religious views introduced into it presumably by its later reconstructors—inclusive of the view of *karma* and *adṛṣṭa*—remain on the whole loosely superimposed on its genuinely scientific content.

27. DEFENCE OF MEDICINE

An entire chapter of the *Caraka-saṃhitā* is in defence of the intrinsic efficacy of medical science. It is reminiscent of a brief tract surviving in the Hippocratic collection with the title *The Art*, which has ostensibly the same theme. Besides, some of the objections raised and answered against the possible efficacy of medicine in both are at least apparently similar. But the similarity ends there. What is of greater importance for us is that which differentiates the *Caraka-saṃhitā* from *The Art*.

Specially in the context of the general ideological situation of ancient India, the defence of the intrinsic efficacy of medicine in the *Caraka-saṃhitā* cannot but have a very radical implication. It amounts to the rejection of the law of *karma*, if not in so many words at least by clear implication. The risk involved in this is obvious : to question the law of *karma* is one of the surest ways of being viciously attacked by the lawgivers. But the ancient doctors of India apparently feel that it is not an avoidable risk. As practising physicians they have to defend their own knowledge and their own technique, notwithstanding the lawgivers. In this chapter of the *Caraka-saṃhitā*, in other words, we have the impression of how science is obliged to come in open confrontation with the vested interests in society. But *The Art* gives us no impression of such a confrontation. One important reason for this is that *The Art* is not at all the product of an active scientist keen on defending the knowledge and technique he stands for. It is on the contrary written by some leisured elite seeking delight in sophistry and rhetoric. His choice of the subject-matter for the purpose—viz. medical science—is on the whole an arbitrary one, because he hardly gives us the impression of having any sound and first-hand knowledge of this science itself. As W.H.S. Jones, introducing his translation of *The Art*, remarks : "It is quite plain from even a cursory reading of the treatise that its author was not a physician. His interest lies in subtle reasonings and in literary style, not in science. Besides this, in the last chapter he speaks of 'those who are skilled in the art' as giving a proof of the existence of medicine based on works, and not, like the proofs given in the present book, on words. He evidently distinguishes himself from medical men. The two most striking characteristics of *The Art* are an attenuated logic and a fondness for sophistic rhetoric. The rhetorical character of the whole book is so striking that without doubt it must be attributed to a sophist. The elaborate parallels, verbal antitheses, and balancing of phrase with phrase, can have no other explanation."[266]

266. Jones ii. 186.-7.

But the defence of medicine in the *Caraka-saṃhitā* is quite different. Those who are defending it give us the unmistakable impression of being practising physicians, for whom the intrinsic efficacy of their knowledge and technique is far too important a proposition to allow them seeking delight in the subtleties of sophistry, rhetoric and literary style. The main question with which they are confronted is : How far, from the medical view-point, is it valid to claim that the disciplined knowledge of nature enables man to master it ? In the Indian context, at any rate, this is the basic question of science *versus* the counter-ideology, for the latter demands of man the submission to unquestioning faith in some supernatural or "unseen" power controlling his destiny—his birth and death, his pleasures and pains, his health and disease.

Before passing on to see all these, let us sum up the defence of medicine in the *Caraka-saṃhitā*.

In the Āyurvedic view, successful medical treatment depends on four factors. These are : the physician, substances (drugs or diets), nurse and patient. Accordingly, a chapter of the *Caraka-saṃhitā* is designed to explain these four factors, or more properly, the desirable qualities or qualifications of each of these four, the combined operation of which leads to therapeutic success. The text mentions in this connection four such qualities of each of these four factors. We quote these not only to see how remarkably free the medical view is from supernaturalism and scriptural cant but moreover because some of the things said by the ancient doctors retain profound significance even for our times.

The four essential qualifications of the physician are : 1) clear grasp of the theoretical content of the science, 2) a wide range of experience, 3) practical skill and 4) cleanliness :

śrute paryavadātatvaṃ bahuśo dṛṣṭakarmatā/
dākṣyaṃ śaucam iti jñeyaṃ vaidye guṇa-catuṣṭayam//[267]

The four essential qualities of the drugs or substances are : 1) abundance, 2) applicability, 3) multiple use (or, what is per-

267. *Caraka-saṃhitā* i.9.6.

haps called "broad spectrum" in modern medical jargon) and 4) richness in efficacy :

bahutā tatra-yogyatvam anekavidha-kalpanā/
sampat ca iti catuṣkaḥ ayaṃ dravyāṇāṃ guṇa ucyate//[268]

The four essential qualifications of the nursing attendant are : 1) knowledge of nursing technique, 2) practical skill, 3) attachment for the patient and 4) cleanliness :

upacārajñatā dākṣyam anurāgaḥ ca bhartari /
śaucaṃ ca iti catuṣkaḥ ayaṃ guṇaḥ paricare jane //[269]

The four essential qualifications of the patient are : 1) good memory, 2) obedience to the instructions (of the doctor), 3) courage and 4) ability to describe the symptoms :

smṛtiḥ nirdeśa-kāritvam abhīrutvam atha api ca /
jñāpakatvaṃ ca rogāṇām āturasya guṇāḥ smṛtāḥ //[270]

Something is so striking about this enumeration of the qualities of the "four factors" ensuring medical success that it is impossible for us to overlook it. While enumerating the desirable qualities of the patient, the medical compilation is absolutely silent about the accumulated merits of his past actions contributing to his recovery. In other words, it is totally silent about *karma* and *adṛṣṭa.* How are we to account for this silence ? Could it be that the ancient physicians were unaware of the importance attached to this view in the officially boosted world-outlook of ancient India ? It is obviously impossible to take such a possibilty seriously. Could it then be that the doctors believed in *karma* and yet forgot to mention it in this context ? This again is inconceivable, because the discussion of the merits of the patient is about the surest context of mentioning the *adṛṣṭa* of the patient on the part of those who believed in it. The silence of the *Caraka-saṃhitā* about *karma* and *adṛṣta* of the patient, even in this context of discussing the qualities essential for his recovery, can thus have only one significance for us. From the medical viewpoint, *karma* is considered a redundant hypothesis. So the physicians prefer to ignore it altogether. They have far more serious things to discuss instead, namely the real merits of the patient

268. *Ib.* i.9.7. 269. *Ib.* i.9.8. 270. *Ib.* i 9.9.

really contributing to his recovery. These are good memory, obedience to the doctors, fearlessness and the ability to communicate the exact nature of his troubles. A doctor today has perhaps little to add to the ancient doctors on the basic desirability of these qualities in the patient. But the situation in which he is placed is quite different. A great deal of political courage is not required today to say all these. But this political courage is required of the ancient doctors, because they live in a world in which the law-givers declare that any indifference to the law of *karma*—which this assertion obviously entails—is nothing short of heresy. The ancient Indian doctors, however, cannot help this. Their science and the law of *karma* do not go together. This becomes all the more obvious when they defend the intrinsic efficacy of medical science. The defence of medicine in the *Caraka-saṃhitā* is thus much more than a matter of mere intellectual exercise, which it largely is in the Hippocratic tract called *The Art*.

The discussion of the four basic factors on which medicine depends and of the four marks of excellence of each of these, forms the theme of the ninth chapter of the *Sūtra-sthāna* of the *Caraka-saṃhitā*. In the next chapter of the work is taken up the question of the intrinsic efficacy of medicine. The discussion is introduced as follows :

The chapter opens with the declaration that the rational application of medicine depending on these four factors characterised by their sixteen marks of excellence are sure to lead to the cure of disease.[371] But there is a *prima facie* objection against such a claim. The fact is that in spite of receiving medical treatment characterised by these four factors a patient is often found to die, just as a patient is often found to be cured in spite of the absence of these four factors. Thus it is impermissible to claim that medical treatment characterised by these four factors causes the cure of diseases. The actual role of medical treatment in the cure of the patient is at best an extremely negligible one. As a certain Maitreya—about

271. *Ib.* i.10.3.

whom the medical compilation tells us hardly anything more—expresses this objection in the *Caraka-saṃhitā* :

"Maitreya said : No, this is not so. Why ? It is observed no doubt that a patient for whom the medical substances are available, who is attended by the nurse and who is possessed of all these qualities—when treated by an expert doctor—gets cured. But it is also observed that another patient—in spite of the presence of all these in his case—is led to death. Medical treatment is thus of no real significance (*tasmāt bheṣajam akiṃcitkaraṃ bhavati*). It is like dropping just a little water into a well, a lake or a river, or like scattering a handful of dust on a sand dune.

"It is also observed that a patient without the supply of drugs, unattended by a nurse, lacking in the personal qualities and treated by an unqualified doctor gets cured, while others—similarly circumstanced—die all the same.

"Thus medical treatment is followed by recovery as well as death. Also, the want of medical treatment is followed by recovery as well as death. Therefore, medical treatment is of no more consequence than the absence of it (*bheṣajam a-bheṣajena a-viśiṣṭam*)."[272]

Let us first note that in the ancient Indian context there is a special risk for the scientists in raising this discussion. The risk is that while answering the objection raised they have either to acquiesce in an ideology opposed to science or to come in open confrontation with the ideological requirements of the vested interests. The way in which Maitreya is made to raise the objection in the *Caraka-saṃhitā* is not perhaps without a hint of such ideological requirements inspiring the objection. From the observed cases of recovery as well as death resulting from both the presence and absence of medical treatment, he does not argue that both recovery and death are just fortuitous or without any cause whatsoever. The main drift of his arguments is that there is something infinitely more important than medical care which determines recovery as much as death. Compared to it, medical treatment is as insignificant a factor

272. *Ib.* i.10.4.

as a few drops of water for a lake or a handful of dust for a sand-hill. What then is this something supposed to be determining both recovery and death ? Though in the present context our *Caraka-saṃhitā* does not specify it in so many words, from what is known in general about the ideological climate of the country it may not be impermissible to presume what the objector has in mind. There is a theory widely circulated in ancient India with the powerful backing of the priests and law-givers according to which both recovery and death are being determined by some omnipotent law other than the one the physicians speak of. That is the law of *karma*. When therefore our Maitreya speaks of something vastly more important which really determines recovery as well as death—something compared to which medical science is supposed to be insignificant—the possibility of his having the law of *karma* in mind cannot be easily rejected.

All this, it will perhaps be argued, is more or less conjectural. What is not at all conjectural, however, is another point. While answering the objection raised against the efficacy of medical science, the physicians do in fact completely ignore the law of *karma*. They seem to brush aside the officially boosted view that life and death, health and disease—in fact all that a man enjoys or suffers—are being determined by the "unseen" hangovers of actions performed by him in his past life. They argue, on the contrary, that the knowledge and technique which they represent have the efficacy of ensuring long life or of effecting actual cure.

Not that they make the absurd claim that they can cure all diseases. Like the modern doctors the ancient doctors are also aware of the fact that medicine notwithstanding, certain diseases remain incurable, though of course the range of incurable diseases for them is much wider than it is for the modern doctors. But they very strongly assert that a right doctor rightly applying the therapeutic technique can never fail to cure a curable disease. But what about the objection supposed to be based on actual observation that only some patients get cured by medical care while others die in spite of it ? From the physician's point of view, such an objection is based at best on

pseudo-observation or inadequate observation. It is not enough to observe whether a patient gets cured by medical treatment or not. It is essential to note moreover the nature of the disease he suffers from. If the disease is incurable by nature, the patient dies in spite of full medical care, or, according to the Āyurvedic way of putting it, in spite of all the four factors of medicine along with their sixteen qualities being present. But this cannot be true when the disease is a curable one. As the *Caraka-saṃhitā* puts it,

"It is wrong to claim that in spite of the presence of medical treatment with the sixteen desirable qualities (of the four factors of medicine) some patients are observed to die. In cases of diseases amenable to medical treatment, medicine can never be ineffective. (*na hi bheṣaja-sādhyānāṃ vyādhīnāṃ bheṣajam akāraṇaṃ bhavati*)."[273]

This is illustrated with the analogy of a good archer :

"As a bowman who is a good marksman and given to constant practice, taking up a bow and releasing an arrow does not fail in hitting a big target that is not far off, and achieves his purpose, so does a physician of accomplishment and means who starts treating a curable disease after full investigation, without fail bestow health on the patient. Hence it cannot be said that treatment is no better than no-treatment."[274]

We hear in this the unmistakable voice of a confident scientist sure of the efficacy of his knowledge and technique. The right physician rightly treating his patient cannot but cure his curable disease. We shall presently see how the *Caraka-saṃhitā* explains the actual basis of this self-confidence and what moreover it means by curable disease. But it needs at once to be noted that the assertion just quoted leaves no scope either for the view of *adṛṣṭa* or that of chance or luck in the physicians' defence of the efficacy of medicine.

In the Hippocratic tract called *The Art*, there is naturally no question of compromising with the theory of *adṛṣṭa*, which is peculiarly important in the Indian context. However, being the product of an amateur rather than a practising doctor,[275]

273. *Ib.* i.10.5. 274. *Ib.* i.10.5. Tr G. 275. Jones ii. intro pp. xlii-xliii.

the work does not eliminate the possibility of luck or chance coexisting with real medical efficacy. Here is how the tract answers a similar objection.

"The beginning of my discourse is a point which will be conceded by all. It is conceded that of those treated by medicine some are healed. But because not all are healed the art is blamed, and those who malign it, because there are some who succumb to diseases, assert that those who escape do so through luck and not through the art. Now I, too, do not rob luck of any of its prerogatives, but I am nevertheless of opinion that when diseases are badly treated ill-luck generally follows, and good luck when they are treated well."[276]

The cleverness of the literary style of this is not to be denied. But the answer to the objection against medicine given here is based on the same fallacy of observation on which the objection itself is based. From the standpoint of the *Caraka-saṃhitā*, it is the generalised view of patients and their diseases, without going into the medically important question of the specific nature of the disease a particular patient is suffering from. Once this erroneous view of patients and diseases is conceded, the author of *The Art* cannot possibly reject the element of luck, because he cannot escape the fact of pseudo-observation that some patients get cured while others do not in spite of the same medical treatment. When, however, the specific nature of disease is taken into account—as the *Caraka-saṃhitā* does—the intrinsic efficacy of medicine need not be defended by saying that good luck usually follows good treatment and ill-luck generally follows bad treatment. One reason why the author of *The Art* fails to assert that the specific nature of the disease needs to be noted is that he is not a practising doctor, though what makes it also easy for him to make room for the element of luck in the actual cure of the patient is the thinness of the therapeutic technique itself of the times of which *The Art* is the product: "in the Hippocratic age little could be done for patients suffering from acute diseases except to keep them warm and comfortable, and to restrict their diet."[277]

276. Jones ii.195. 277. Jones ii. intro p. xvii.

The physicians of the *Caraka-saṃhitā* feel differently. They feel that the vast empirical data before them help them to develop insight into certain laws of nature, which rightly followed enable the doctors to cure the curable diseases without fail. Thus immediately after explaining the infallibility of the qualified doctor's technique on the analogy of the trained archer, the *Caraka-saṃhitā* explains that this is not to be misunderstood as empty bragging. What makes the medical technique infallible is that it is based on some well-defined principles justified by empirical data : "We follow the following principles because all these are well-established by our direct observations : We cure the sick by sickness-removing drugs, the emaciated persons with emaciation-removing agents. We cure the thin and sick persons with nourishment, just as we prescribe restrictions of food for the flabby and fatty persons. We treat with 'cold' those who are afflicted with 'hot' and with 'hot' those who are afflicted with 'cold'. When some body-element becomes diminished we prescribe for its increment, just as when some body-element becomes excessive we prescribe for its diminution."[278]

Thus enumerating the empirically justified basic principles of medicine, the *Caraka-saṃhitā* quotes an authoritative verse reiterating the self-confidence of the skilled physician : "A physician who knows how to differentiate between the curable and incurable diseases and who, with proper medical knowledge, begins the treatment of the patient in time, is absolutely certain of attaining success (*tat dhruvaṃ sādhayati*)."[279]

Lest this emphasis on the absolute certainty of the physicians' knowledge and technique gives us the wrong impression that by "curable diseases" they mean only certain minor ailments, the *Caraka-saṃhitā* wants to be quite clear about these :
"The curable diseases are of two kinds : those that are easily cured and those that are cured with difficulty . The curable ones are, again, classed in three main categories by reason of their requiring mild, moderate or strong treatment ..
"The characteristics of an easily curable disease are : the causes, premonitory symptoms and symptoms are mild; the morbific

278. *Caraka-saṃhitā* i.10.6. 279. *Ib.* i.10.7.

factor is homologous neither to the affected body-element nor to the habitat of the patient, nor to the traits of the prevailing season; the place of disease is not inaccessible to treatment; the course of disease is localised in one system, is recent, has no complication and is due to the predominance of one *doṣa* (i.e. due to the excess or diminution of only one of the three waste-products of food called *vāyu, pitta* and *kapha*) ; the body is in a condition to withstand all treatment and the fourfold requisites of treatment are at hand. These are the circumstances in which a disease is easily curable.

"The diseases cured with difficulty are : those wherein the causes, the premonitory symptoms and symptoms are of moderate strength; when any one of the three—the season, the habitat and the susceptibility of body-elements—is homologous with the morbific factor; the diseases of a woman in pregnancy or of a man of old age or of an infant though not very seriously aggravated by complications ; those that require surgical operation, caustic and cauterizing procedures; those whose diseases have gone beyond the incipient stage; those whose diseases are located in some part of the body to which access is difficult; those for whom the four factors of treatment are not fully available; those whose diseases have spread to more than one system but have not yet become very chronic and those whose disturbance is due to two *doṣa*-s."[280]

When therefore the physicians declare that the curable diseases can be cured by them with certainty (*tat dhruvaṃ sādhayati*), they do not have an over-simplified view of such diseases. They are fully aware that some of these are extremely difficult to cure. Still they feel convinced that granted all the four factors of medicine with their sixteen qualities, they cannot but succeed in curing such diseases. The medical technique is infallible even in such difficult but curable cases.

But what about the incurable diseases ? The *Caraka-saṃhitā* says, "The incurable diseases also fall into two categories : those that respond to palliatives and those that are not even so."[281]

280. *Ib.* i.10.9-16. Tr based on G. 281. *Caraka-saṃhitā* i.10.9.

The need is accordingly felt to explain the nature of these two types of incurable diseases. So the *Caraka-saṃhitā* continues, "The diseases of the following description are to be regarded as incurable but responding to palliatives : those in which the patient, being left with some hope of living a little longer, may be given some relief with strict regimen etc, but the diseases get easily aggravated by slight causes, because the diseases are very deep-seated, affect many body-elements, are located in vital parts and joints, are liable to constant relapse, have become very chronic and are caused by two *doṣa*-s. The following diseases are incurable and the physicians can do nothing about these : over and above having the marks just mentioned, diseases that are due to the complete disturbance of all the three *doṣa*-s; those that affect all the systems of the body and hence are totally beyond the range of any treatment; those that cause great excitement, restlessness, stupefaction and destruction of all sense-faculties ; those that get greatly aggravated by afflicting weakened constitution and those that are accompanied by fatal prognostic signs."[282]

All this gives us some idea of the limits of therapeutic power as understood by the *Caraka-saṃhitā*. Since this is ancient medicine after all, we do not perhaps expect more from it. However, precisely because it is ancient Indian medicine, something really remarkable about this discussion is not to be overlooked. It is the claim that even in some cases of incurable disease, the doctors can prescribe effective palliatives, and thereby relieve the patients of the inevitability of suffering caused by the diseases. Is this not another way of disowning the law of *karma*, according to which—like the disease itself—the suffering caused by it is completely determined by the bad actions performed in the past ?

It remains for us to discuss another point in this connection. The objection raised against the intrinsic efficacy of medicine is based on two main grounds. First, patients are observed to die in spite of receiving full medical treatment. Secondly, patients are found to recover even without any medical treat-

282. *Ib*. i.10 17-20.

ment. We have seen how, in refutation of the first ground, the *Caraka-saṃhitā* insists on determining the nature of the disease. But what about the second ground of the objection ? The text says,

"And, again, as regards those who recover without the aid of any treatment—even in their case there is a special reason for giving them a complete course of treatment. Just as a man, by lifting another who has fallen—although the latter is able to rise by himself—gives him support, in consequence of which he rises sooner and without difficulty; in like manner do patients receiving the aid of a complete treatment recover more easily and without difficulty."[283]

Thus the ancient doctors do not deny the natural power of the organism helping it to get cured of certain diseases, though their actual knowledge of this natural endowment of the body—compared to that of the modern doctors—is understandably negligible. But the point they want to argue remains valid today. This cannot be an evidence against the intrinsic efficacy of medicine, because medicine ensures quicker and surer recovery even for those that may eventually get cured by the natural endowment of the body.

Let us compare this with the answer to a similar objection given in the Hippocratic tract called *The Art*. "Now", its author says, "my opponent will object that in the past many, even without calling in a physician, have been cured of their sickness, and I agree that he is right. But I hold that it is possible to profit by the art of medicine even without calling in a physician, not indeed so as to know what is correct medical treatment and what is incorrect, but so as by chance to employ in self-treatment the same means as would have been employed had a physician actually been called in...For even those who, without calling in a physician, recovered from a sickness must perforce know that their recovery was due to doing something or to not doing something."[284]

This, to say the least, is a very strange defence of medical science from the standpoint of the working doctors. People

283. *Ib.* i.10.5. Tr G. 284. Jones ii.197.

may "by chance employ in self-treatment the same means as would have been employed had a physician actually been called in" and thus "perforce know that their recovery was due to doing something or to not doing something." Does this mean that sometimes by pure accident people may stumble upon the knowledge and technique which make one a physician ? If so, medicine as a discipline consciously striving after the knowledge of the causes of disease and of its cure becomes largely redundant. In the hand of the sophist, thus, the defence of medicine easily passes into its opposite.

From the viewpoint of the *Caraka-saṃhitā* at any rate, such a defence of the efficacy of medicine is inconceivable. We have already seen that while talking of the actions of the different substances on our bodies, it takes special care to add the expression *pramāṇataḥ-apramāṇataḥ*—"based on definite proofs or disproofs."[285]

Those who defend the healing art in this medical compilation are interested above all in the cure of the patient no doubt. But they are also fully aware that their healing technique is raised to the level of genuine science only when its rationale is adequately understood. This leads us to see another important aspect of rational medicine or *yukti-vyapāśraya bheṣaja* defended by the *Caraka-saṃhitā*.

28. METHODOLOGY AND EPISTEMOLOGY

The *Caraka-saṃhitā* says, "Any success attained without reasoning (*tarka*) is as good as sheer accidental success" : *vinā tarkeṇa yā siddhiḥ yadṛcchā-siddhiḥ eva sā.*[286]

The *Kaṭha Upaniṣad* declares, "Not by reasoning (*tarka*) is this wisdom (*mati*) to be attained" : *na eṣā tarkeṇa matiḥ āpaneyā.*[287]

285. *Caraka-saṃhitā* i.30.23. 286. *Ib.* viii. 2.28.
287. *Kaṭha Upaniṣad* ii. 9.

Manu advises, "Greet not even by words one who is a logician" : *haitukaṃ...vāk-mātreṇa api na arcayet.*[288]

We have here three clear policy-statements on rationalism and logic. The physicians find their therapeutic technique useless if it is not based on reason. The metaphysicians of the Upaniṣads, striving after some supra-rational wisdom of the pure self, express disapproval of the rational approach. The law-giver, convinced of the political utility of implicit faith in the scriptures, detests the logician or rationalist. There is thus something that unites the metaphysician with the law-giver.[289] It is the negative attitude to rationalism or logic, though, while the law-giver simply decrees it, the metaphysician has to seek philosophical grounds justifying his damnation of reasoning. This becomes clearer in the case of the most influential of the later champions of the Upaniṣadic metaphysics, the Advaita Vedāntists. Śaṃkara, for example, tries to prove at some length why *tarka* or reasoning cannot have an efficacy of its own ; the only efficacy that it possibly has is to rationalise what is already revealed in the scriptures.[290]

This, he realises, necessitates the rejection of the very possibility of any valid system of logic and epistemology. Hence he opens his philosophical *magnum opus* with the claim that what are ordinarily called *pramāṇa*-s or "instruments of valid knowledge"—specially experience and reason—operate only within the general framework of ignorance or *avidyā*.[291] Śrīharṣa, a later follower of Śaṃkara, shows the most imposing scholastic skill to refute the *pramāṇa*-s.[292]

Thus, is short, the idealist outlook of the Upaniṣads, though with the most powerful financial and political support behind it,[293] leads ultimately to the total eclipse of logic and epistemology. The humble researches of the physicians in man and nature have a different destiny. They find that the commitment to rationalism is essential for their researches, on which depends

288. Manu iv. 30. 289. Chattopadhyaya WLWD 171 ff.
290. Śaṃkara on *Br. Su.* ii. 1.11. Cf. Chattopadhyaya WLWD 201 ff.
291. Śaṃkara *adhyāsa-bhāṣya.* 292. Mookerjee NNMRP i. 47 ff.
293. Chattopadhyaya WLWD 124 ff.

their therapeutic success. This, as we shall see, leads them to bequeath to Indian thought the fundamentals of a sound system of logic and epistemology.

But let us first try to be clear about the general need felt for rationalism by the practitioners of the ancient healing technique. The maxim we have just quoted from the *Caraka-saṃhitā* occurs in a chapter added to it by Dṛḍhabala, its final "reconstructor". But there is no doubt that the maxim itself is true to the actual spirit of the ancient doctors. The medicine they stand for is characteristically rational. An important reason for this is their basic commitment to the causal law. The *Caraka-saṃhitā* allows the possibility of the doctors belonging to different schools to differ from each other on various medical matters. Each school of medicine is entitled to have certain conclusions characteristic of itself (*prati-tantra-siddhānta*).[294] What the physicians do not allow, however, is the possibility of any serious school of madicine remaining indifferent to the principle of causality. The causal principle is one of the three fundamental propositions absolutely binding on all schools of medicine (*sarva-tantra-siddhānta*).[295] How can one be a serious doctor without being convinced that there must be a specific cause of a disease, and also of its cure ? But any non-rational way of knowing the cause is inconceivable. Hence rationalism is obligatory for all physicians.

There is no doubt that even without a rational understanding of the actual cause of cure, somebody may stumble as it were on some curative procedure. Cases like these are ordinarily called cases of accidental success or success due to mere chance—*yadṛcchā-siddhi.* From the medical viewpoint, such a success is accidental not in the sense of having no cause but in the sense of unknowingly hitting upon some cause which turns out to be the real cause of cure. In other words, there may sometimes be a right way of doing something, though without at all knowing why this—rather than any other—is actually the right way of doing it. The Indian doctors feel that something like this accounts for the occasional success of the medical quacks

294. *Caraka-saṃhitā* iii.8.37 295. See *supra* p. 22.

or charlatans. It is success without any rational insight into the cause of the success, i.e. without the awareness why only one specific course of treatment rather than any other leads to the actual cure of disease. The occasional suecess of the quack—because it is not rationally understood—creates special danger for the patients in general. It gives him a false sense of self-confidence, with which he tries his random technique on many others and thereby brings disaster to them. Describing the quack, the *Caraka-saṃhitā* draws our attention to the danger created specially by his occasional success :

"Like a man without eyes or like a canoe left at the mercy of winds, the ignorant physician gropes about timidly because of his lack of knowledge. However, when he meets accidental success in the case of some otherwise assured of life (*niyatāyuṣa*), the pretentious quack gathers courage with which he hastens the death of many others whose lives are not thus assured (*a-niyatāyuṣa*)".[296]

From the viewpoint of the *Caraka-saṃhitā*, the qualified physician creates no such risk for the patient, because his knowledge of what is conducive to life and what is not is based on definite proofs and disproofs (*pramāṇataḥ-apramāṇataḥ*)[297] or because he possesses the "knowledge of cause and rational application" (*hetu-yuktijña*).[298] Hence is the maxim of the ancient doctors just quoted : Any success attained without reasoning is as good as sheer accidental success.

This leads us to see another aspect of ancient Indian medicine. We have seen before how much of importance is attached in it to the direct observation of man and nature. A very imposing amount of empirical data forms indeed the ultimate basis of Āyurveda. But the ancient doctors also feel that this by itself is not enough for their science. What it also requires is a rigorous discipline of reasoning, Only being processed by it mere empirical data can be raised to the status of scientific laws. The knowledge of these laws alone ensures therapeutic power.

Driven by their methodological requirements, therefore, the ancient doctors are led to develop very serious interest in the

296. *Caraka-saṃhitā* i.9.16-7. 297. *Ib.* i.30.23. 298. *Ib.* i.2.36.

problems of experience and reason, i.e. in problems that are really epistemological. Understandably, the *Caraka-saṃhitā* contains extensive disussions of epistemology. We propose to review this in some detail in the third part of the present study, which is designed to discuss the question what Indian medicine possibly bequeaths to the general fund of Indian philosophical thought. We shall see there that it is not easy to dismiss Dasgupta's view[299] that such epistemological discussion of the physicians "was probably the origin of the logical speculations subsequently codified in the *Nyāya-sūtra*-s." The plausibility of this becomes specially prominent when we remember that, of all the disciplines of ancient India, Āyurveda alone needed a serious system of logic and epistemology as part of its practical requirements. We shall note here only a few points to illustrate this.

As we have repeatedly said the causal principle is absolutely essential for Āyurveda. None can be a qualified doctor unless he is clear about two points : what causes a disease and what casuses its cure. The starting point of understanding the cause of both disease and cure is no doubt the observation of phenomena, for without this any view of the cause would be arbitrary, fanciful and purely speculative. But the ancient doctors also realise that it is impossible to establish the causal connection between two phenomena depending on perception alone. For this purpose, it is necessary to supplement preception *(pratyakṣa)* by inference *(anumāna)*. This inference, again, is basically of two kinds : i) from effect to cause and ii) from cause to effect. Disease is an effect of certain factors, which constitute its cause. When therefore the doctors want to infer the factors causing the disease, they have to infer the cause from the effect. When, however, they prescribe certain drugs for the cure of the disease, they have to infer the effect from the cause : from the drugs, which constitute the cause, is inferred the cure, which constitutes the effect. But the doctors want to introduce a further distinction, depending on the time-context to which the cause and the effect belong. Thus,

299. Dasgupta ii. 273.

for example, when from the cause one infers the effect, one infers the future from the present : the drugs belong to the present and the cure belongs to the future. But when one infers the cause from the effect, the cause may belong either to the same time-context to which the effect belongs or it may belong to the past time-context. In other words, when one infers the cause from the effect, the cause may be co-existing with the effect (as for example some form of matter-imbalance in the body causing some specific disease) or, compared to the effect, the cause may belong to the past (as for example some faulty diet causing a disease).

To sum up : 1) the inference must presuppose some previous perception, and 2) taking note of the time-contexts, it assumes three basic forms, viz. a) from the present effect to the present cause, b) from the present effect to the past cause and c) from the present cause to the future effect. Accordingly, the *Caraka-saṃhitā* sums up its view of inference as follows :

"Depending on previous perception, one infers in three ways phenomena belonging to three time-contexts. Thus one infers the presence of fire from the smoke, though the fire itself remains unperceived. Similarly, the wise men know by inference the past, when for example they infer (past) copulation from the observation of the signs of pregnancy. Again, depending on the observation of the fruits growing from seeds, from the observation of the present seed they similarly know the future fruit."

pratyakṣa-pūrvaṃ trividhaṃ trikālaṃ ca anumīyate /
vahniḥ nigūḍhaḥ dhūmena maithunaṃ garbha-darśanāt //
evaṃ vyavasyanti atītaṃ bījāt phalam anāgatam /
dṛṣṭvā bījāt phalaṃ jātam iha eva sadṛśaṃ budhaiḥ // [300]

300. *Caraka-saṃhitā* i.11.21-22. Cf. Vātsyāyana on *Nyāya-sūtra* i.1.5 : "Perception has for its objects things present (*sat*). Inference has for its object things both present and absent (*asat*). Why ? Because of its capacity for knowing objects belonging to the three time-contexts (*trikāla-yukta*, i.e. past, present and future). By inference are known objects belonging to the three time-contexts. We infer : 'it will be', 'it is' and 'it was'. By absent (*asat*) is here meant the past and the future (objects)." Chattopadhyaya & Gangopadhyaya NP i. 65.

But the physicians' problem is much more complicated than inferring a simple cause from a simple effect or a simple effect from a simple cause. Their therapeutic problem is usually concerned with the conjunction of a number of causes leading to some specific effect. This follows from their understanding of medicine as dependent on "four factors" : the cure of a curable disease is assured not by any of these factors in its isolation but by the right form of cooperation of all these four factors. Thus, in other words, though according to them the causal principle is absolutely essential for their science, their therapeutic technique depends on the knowledge of this causal principle in a much more complex form. Over and above *anumāna*—which is adequate for knowing a simple cause from a simple effect or a simple effect from a simple cause—the physician want to specify the nature of the intellectual discipline which more appropriately refers to the way of knowing such complex cases of causation. For this purpose, they introduce the concept of *yukti*, which usually means "rational application" but which, in the medical text, means the technique of determining how a number of factors jointly produce a specific effect. As the *Caraka-saṃhitā* explains :

"*Yukti* or rational application means the way of knowing how from the conjuction of water, tilling, seed and season results the harvest, or how the foetal body results from the conjuction of the six *dhātu*-s (body constituents), or how from the conjuction of the flints, fire drill and the act of rightly striking it results fire. By the rational application of the four factors of medicine is thus effected cure."

jala-karṣaṇa-bīja-ṛtu-saṃyogāt sasya-sambhavaḥ/
yuktiḥ; ṣaḍ-dhātu-saṃyogāt garbhāṇaṃ sambhavaḥ tathā//
mathya-manthana-manthāna-saṃyogāt agni-sambhavaḥ/
yukti-yuktā catuṣpāda-sampat vyādhi-nibarhaṇī//[301]

Thus the serious preoccupation with the causal principle does not allow the doctors to remain indifferent to the problems of logic and epistemology. But there is another aspect of their science-consciousness, which draws them to

301. *Caraka-saṃhitā* i.11.23-4.

discuss these problems in greater details. They realise that the knowledge gained by an individual physician under the guidance of an individual teacher, howsoever earnest both may be, is bound to have serious limitations. Hence it is necessary to evolve some technique to expand the horizon of his medical knowledge. This can be best done by intra-disciplinary discussion and debate, technically called *sambhāṣā*. So the *Caraka-saṃhitā* advises, "A physician must enter into debate with another physician" : *bhiṣak bhiṣajā saha sambhāṣeta.*[302] Explaining the desirability of it, the text adds :

"Debate with one belonging to the same discipline contributes to the perfection of one's knowledge and clarifies one's own understanding. It improves one's power of expression and thus adds to one's reputation. By creating scope for listening to what is already heard before, it dispels many doubts and confirms the truth of many a matter already learnt before, just as it enables one to know many things about which one had no previous opportunity of knowing. Sometimes a preceptor, pleased with the devoted services of a disciple, gradually imparts to the latter some aspect of medical knowledge otherwise kept secret by him (which the disciple too is supposed to keep secret). In the heat of debate, however, this care for secrecy is forgotten and, in the zeal of attaining victory in debate, the disciple comes out with these aspects of medical knowledge, thereby allowing his opponent to know it (which he would never have otherwise known). Those who are wise, therefore, strongly recommend intra-disciplinary debates."[303]

Evidently the ancient physicians were putting this norm into actual practice, for the *Caraka-saṃhitā* itself records for us the accounts of many debates among the physicians. But the general desirability of debates once felt does not allow the ancient doctors to remain indifferent to the rules and regulations to be followed in the course of the debate, i.e. to the right and wrong ways of arguing a case. This, it is presumed, formed the originat core of the *Nyāya-sūtra*, which contains for us the first systematic account of Indian logic, and is still largely

302. *Ib.* iii.8.15. 303. *Ib.*

concerned with the technique of debate. As Dasgupta argues, "The art of carrying on a dispute successfully was considered an important acquisition among medical practitioners. Thus we have a whole set of technical terms relating to disputes, such as are never found in any other literature, excepting the *Nyāya-sūtra.* In the *Caraka-saṃhitā* almost the whole of the chapter called *Roga-bhiṣag-jitīya-vimāna* (iii.8) is devoted to this purpose. It is well to remember that different kinds of disputes and fallacies are mentioned in the *Nyāya-sūtra,* and it will be useful to refer to these when dealing with similar topics from either the *Caraka-saṃhitā* or the *Suśruta-saṃhitā*".[304] But the original core of the discussion of the technique of debate and of the logico-epistemological questions connected with it seem to belong to Āyurveda. Thus, Dasgupta continues his argument, "since we find no work of an earlier date, Hindu, Buddhist or Jaina, which treats of the logical subjects found in the *Caraka-saṃhitā,* and since these logical discussions seem to be inextricably connected with medical discussions of diagnosis of diseases and the ascertainment of their causes,"[305] it is only reasonable to think that all this originally develops among the medical practitioners. "The origin of the logical art of debate in the schools of Āyurveda is so natural, and the illustrations of the modes of dispute and the categories of the art of debate are so often taken from the medical field, that one has little reason to suspect that the logical portions of the *Caraka-saṃhitā* were collected by Caraka from non-medical literature and grafted into his work."[306] The strong presumption, therefore, is that the medical schools give to Indian thought the first systematic effort towards logic and epistemology. But more of this later.

29. SCIENCE AND HUMANISM

To these outstanding features of ancient Indian medicine, we propose to add only another. It is the ideal of humanism that

304. Dasgupta ii.377. 305. *Ib.* ii 399. 306. *Ib.* ii.402.

inspires the ancient scientists. Here is a passage of the *Caraka-saṃhitā* which gives us a glimpse of this humanism :
"(Among the physicians) he surpasses all who practises medicine neither for the sake of money nor for the sake of sensual gratification in any other form, but is motivated only by the compassion for living beings.
"Those who, as a source of income, want to sell medical skill as any other commodity, appear to run after a heap of dust, overlooking the real hoard of gold.
"Compared to the physician who cuts off the noose of death and brings back to life those who are being dragged by fierce diseases towards death, nobody confers greater blessings—moral or material—to the human beings.
"One who practises the healing art with compassion for the living beings as the noblest of all duties is a person who really fulfils his mission and thereby gets entitled to the highest form of happiness."

na arthārthaṃ na api kāmārtham atha bhūta-dayāṃ prati /
vartate yaḥ cikitsāyāṃ sa sarvam ativartate //
kurvate ye tu vṛtyarthaṃ cikitsā-paṇya-vikrayam /
te hitvā kāñcanaṃ rāśiṃ pāṃsurāśim upāsate //
dāruṇaiḥ kṛṣyamāṇānāṃ gadaiḥ vaivasvata-kṣayam /
chittvā vaivasvatān pāśān jīvitaṃ yaḥ prayacchati //
dharmārthadātā sadṛśaḥ tasya na iha upalabhyate /
na hi jīvitadānāt hi dānam anyat viśiṣyate //
paro bhūtadayā dharma iti matvā cikitsayā /
vartate yaḥ sa siddhārthaḥ sukham atyantam aśnute // [307]

Here at any rate we read in ancient medicine something from which physicians today have surely much to learn.

We see in the ancient doctor the seeker of the knowledge of nature (*prakṛtijña*), not only hoping to convert this knowledge into successful healing technique but also boldly protesting against the merchandisation of his knowledge and skill, which is so aptly described as *cikitsā-paṇya-vikraya.* If, in view of the

307. *Caraka-saṃhitā* vi. 1D 58-62.

rudimentary technological development on which he historically depends, it is necessary for him to be patient in investigating nature, the way in which he chooses to be patient also in serving humanity—pinning his hope on the conviction that the knowledge of the laws of nature alone holds the prospect of alleviating human sufferings—cannot but be judged as highly remarkable. That is the image of the real scientist we have in the *Caraka-saṃhitā*—"the composite image...devoted equally to the patient investigation of nature and the patient service of humanity", with scant respect for the idea that professional fee establishes the only bond between the healer and the healed. "To one who understands, knowledge of nature and love of humanity are not two things but one."[308] This indeed would be a very lucid way of putting what the genuine physician in the *Caraka-saṃhitā* stands for.

308. Farrington SPAW 66.

CHAPTER 2

COUNTER-IDEOLOGY

1. PRELIMINARY REMARKS

An attempt is made in the first chapter to read in the extant medical compilations some of the promises of science with which rational medicine begins in ancient India. While noting these it is argued that despite "the prodigious difficulty of the first steps in any science, and the tentative and groping thoughts that accompany these steps"[1], it is impossible for the historian of science in its restricted sense—and even for the historian of ideas in general—to ignore the significance of a number of theoretical achievements of the ancient physicians. But it is equally impossible for the historians to overlook the basic fact that the promises of science remain unfulfilled in ancient and medieval India. These do not lead to the creation of science in the modern sense, as expected of the normal course of their development. Evidently there is also something in ancient India which inhibits or injures science, wanting even to destroy what is once achieved by it. Since, as Needham says, the inhibitory processes concern the historian of science as much as the adjuvant ones,[2] an attempt will be made in the present chapter to identify the former. For this purpose, we propose to depend primarily on literary sources. Of these sources, what comes down to us as the Indian legal literature has its obvious importance. We begin with a brief review of it.

2. LAW-GIVERS' CONTEMPT FOR DOCTORS

Though apparently bewildering, a prominent feature of Indian

1. Farrington GS 140. 2. Needham ii. 396.

legal literature is the intense contempt for the physicians and surgeons. The usual way of expressing it is to declare that the doctors are intrinsically impure human beings—so impure indeed that their very presence pollutes a place, that food offered by them is too filthy to be accepted and that even the food offered to them turns into something vile. Here are some examples :

The law-codes of Āpastamba declare, "The food given by a physician, a hunter, a surgeon, a fowler, an unfaithful wife or a eunuch must not be eaten."[3] The same authority adds : food given by a *gaṇa* (? tribal collective[4]) must not be eaten, and so also is the food offered by an artisan or a physician.[5]

Gautama's law-codes assert that a Brahmin may accept food from "a trader who is not an artisan"[6] ; but he must not accept food from an artisan, an unchaste woman, a criminal, a carpenter, a surgeon and such other persons."[7]

All this fully agrees with the law-codes of Vaśiṣṭha. "Now therefore", says he, "we will declare what may be eaten and what may not be eaten. Food given by a physician, a hunter,...a thief, ...an outcast must not be eaten. Nor that given by a miser,...a carpenter,...a washerman,...a spy, a cobbler ; nor that given by a *śūdra*,...nor food offered by the *gaṇa*, nor by the harlots."[8] Even alms received from the physician is supposed to be impure : "But alms, though offered without asking, must not be accepted from a physician, from a hunter, from a surgeon, or from a a very wicked man, or from a eunuch, or from an unfaithful wife."[9]

The authorities we have just quoted—Āpastamba, Gautama and Vaśiṣṭha—belong to the earliest group of Indian law-givers. P. V. Kane proposes to place their law-codes—called the *dharma-sūtra*-s—between 600 B.C. and 300 B.C.[10] R.S. Sharma wants to modify this date as *circa* 500-200 B. C.[11] Therefore, judged by what is just quoted from Āpastamba and others we can presume that the legal contempt for the doctors—and therefore

3. Āpastamba i.6.19.14
4. Chattopadhyaya L 151ff.
5. Āpastamba i.6.18.o6-8 & 21.
6. Gautama xvii.7.
7. *Ib.* xvii. 17.
8. Vaśiṣṭha xiv. 1-10.
9. *Ib.* xiv. 19.
10. Kane ii. pp.xi-xii (Chronological Table).
11. Sharma 15.

also for their science—is to be traced as far back as the sixth or fifth century B. C. The later legal literature shows how it continues.

"The Dharmasūtras—also known as Dharmaśāstras which cover all kinds of legal texts including commentaries—developed into the Smytis, written in verse. The oldest and most well-known of the Smṛtis is that of Manu, also called *Manu-saṃhitā* or *Mānava-dharmaśāstra*."[12] Bühler proposes to place it between 200 B. C. and A. D. 200. Kane accepts this date, though Sharma says, "its style and contents suggest its final compilation in the first or second century A.D.''[13] Another work, considered to be of considerable importance in the history of Indian law, is attributed to Viṣṇu, which, though wanting to be recognised as a *sūtra* by its title *Viṣṇu-dharma-sūtra*, is placed by Kane between A .D. 300-600. Besides, the redactors of the *Mahābhārata* insert into the Anuśāsana and Śānti parva-s of the great epic long discourses on law and politics, fully in accord with the general spirit of the older low-codes. The chapters containing these discourses are usually dated roughly the fourth century A. D. Thus, in short, the time span between the law-codes of Āpastamba and Viṣṇu (and the legal discourses added to the *Mahābhārata*) is roughly a thousand year.

It is of considerable inportance to see that the legal contempt for medicine continues to have practically the same form during this long stretch of time.

Like the other law-givers, Manu declares that it is prohibited for members of higher castes to accept food from the physicians. What he adds to the declaration is only a greater intensity of contempt for such food : "the food received from a doctor is as vile as pus" *(pūyaṃ cikitsakasya annam)*.[14] There is thus no question, from his point of view, of a *snātaka* (or one who has finished the scriptural studies) to accept such food : "the *snātaka* must not accept food given by a physician"[15]. But not merely this. The physician is supposed to be so impure that even food offered to him turns into some-

12. *Ib.* 15-6. 13. *Ib.* 16. 14. Manu iv.220. 15. *Ib.* iv.212.

thing vile. The food given to the physician, says Manu, is like pus and blood *(bhiṣaje pūya-śoṇitam)*.[16] Accordingly, Manu takes care to mention that like the other intrinsically impure persons, the physicians are not to be alowed to attend sacrifices offered to the gods and manes, because their very presence destroys the sanctity of the sacrifice[17].

The law-book attributed to Viṣṇu appears in one place to take a somewhat realistic attitude. In spite of possessing the knowledge of the scriptures, it is obviously risky for one to live in a place where medical attention is not available. So the law-giver says, the *snātaka* "must not live in a kingdom in which there are no physicians."[18] He requires of the physician the faultless application of the healing technique specially when treating a person of the privileged class. Hence he prescribes punishment as severe as that for theft for "a physician who adopts a wrong method of cure in the case of a patient of high rank."[19] However, in spite of such exacting demands of him, the physician's status does not at all improve in the law-giver's view. The doctor remains as impure in Viṣṇu's law-codes as he is supposed to be in the law-codes of Āpastamba and Vaśiṣṭha. Following these, Viṣṇu prescribes the penance of fasting for three days for the offence of eating food offered by any of the following : a carpenter, leather worker, hypocrite, physician, hunter, etc.[20] Further, declares Viṣṇu, as persons following occupations considered undesirable by the scriptural tradition, the physicians—like those performing sacrifices for the *śūdra*-s—must be excluded from attending the funeral rite or *śrāddha*,[21] about the purity of which the Indian priest-class is most particular.

To these, we want to add here only two more prescriptions of the *Mahābhārata*.

In the Śānti-parva of the epic, Bhīṣma—in accordance with the demands of the law-givers—is made to enumerate a long list of persons, the acceptance of food from whom is specially polluting for the Brahmins. In this list, we see the physician

16. *Ib.* iii.180. 17. *Ib* iii.152. 18 Viṣṇu lxxi.66. 19. *Ib.* v.175.
20. *Ib.* li.8-11 21. *Ib.* lxxxii.3-14.

again. Accepting food from him is as defiling as accepting it from the whore, the blacksmith, the washerman etc.[22]

In the Anuśāsana-parva, again, the same Bhīṣma is made to recite another list of persons to whom no gift is to be offered at the funeral rite, in which, as it is well-known, gift offered to undesirable types of persons is supposed to be most harmful for the departed soul. In this list, we see the physician again. Echoing Manu, Bhīṣma is made to declare : gift offered to the physician becomes as vile as pus and blood.[23]

Such then are some of the examples of the contempt for the physicians and surgeons expressed in Indian legal literature. Not that the law-givers are unaware of the obvious use and need of medical care. As Viṣṇu admits in so many words, it is dangerous to live in a kingdom where there is no physician. The law-givers are aware of the obvious use of medicine, as they are aware of the obvious use of various other crafts—like those of the blacksmith, tanner, washerman, etc., with whom the physicians are freely bracketed. Its utility notwithstanding, medical practice is viewed as by nature degrading.

There is therefore no question from the law-giver's point of view for a *dvija* or a member of the privileged class to go in for medical practice. This point is already emphasised in the ancient laws-codes attributed to Vaśiṣṭha, which declare : "A *dvija* who does not know the Veda cannot be called a Brāhmaṇa, nor he who lives by trade, nor he who lives as an actor, nor he who obeys a *śūdra*'s command, nor a thief, nor he who makes his living by the practice of medicine."[24]

This raises a practical problem for the law-givers. If medicine, in spite of its obvious use, is too derogatory a profession to be followed by any member of the higher castes or *dvija*-s, on whom then is its practice to be entrusted ? Manu gives an answer to this question : "Those who have been mentioned as baseborn offspring of Aryans, or as begotten in consequence of a violation of law, shall subsist by occupations reprehended by the *dvija*-s. To the Sūtas belongs the managemet of horses

22. Mbh. *Śānti* xxxvi.30. 23. Mbh. *Anuśāsana* xc.13. 24. Vaśiṣṭha iii.3.

and chariots ; to the Ambaṣṭhas the art of healing ; to the Vaidehakas, the harem service (*strīkārya*) ; to the Māgadhas, trade."[25]

Thus the practice of medicine is supposed to remain confined to the Ambaṣṭhas : *ambaṣṭhānāṃ cikitsitam.* Who then are these Ambaṣṭhas ?

There are many grounds unmistakably indicating that the name is that of some ancient Indian tribe. The Greek historians associated with Alexander's campaign refer to them as Abāstanoi or Sabastanoi, living on the lower Acesines (Chenab) of the present West Pakistan.[26] The *Mahābhārata* mentions the Ambaṣṭhas among the western tribes conquered by Nakula during the campaign *(digvijaya)* of the five Pāṇḍava brothers[27]. Various other sources refer to these tribal people,[28] which make their historicity unquestionable.[29] But the law-givers are not interested in history. What is much more important for their main purpose is plain myth. Hence they are keen on concocting fanciful genealogies of various tribal pepoples specially connected with the arts and crafts. The main point of such genealogies is to show how they are but base-born offsprings of Aryans born in violation of mating laws, or more simply, as bastards or *varṇa-saṃkara*-s in caste nomenclature. In accordance with this general tendency, Manu[30] wants us to believe that the Ambaṣṭhas are born of the mating of Brahmin males with Vaiśya females—a quaint story evidently taken up from the ancient law-codes of Baudhāyana,[31] though according to the law-codes of Gautama, as interpreted by Haradatta, an Ambaṣṭha is supposed to be "the offspring of a Kṣatriya from a Vaiśya woman."[32]

No less quaint than such genealogies of the Ambaṣṭhas is Manu's claim that medical practice must remain restricted to these base-born persons. But this intention of the law-giver seems to acquire a firm basis in the orthodox outlook. As Kane sums up, "Manu prescribes the profession of medicine for him

25. Manu x.46-7. 26. Sircar 76n. 27. *Ib*. 63 & 65.
28. *Ib*. 29n. 29. Kane ii.71. 30. Manu x.8.
31. Baudhāyana i.8.7. & i.9.3. 32. Kane ii.71.

(Ambaṣṭha) and Uśanas says that he may subsist by agriculture or may be a fire-dancer or he may be a herald or live by surgery. *Vaikhānasa-smārta-sūtra* has almost the same words ; the *Sahyādri-khaṇḍa* says the same. Haradatta on *Āpastamba-dharma-sūtra* (i.6.14) says that *ambaṣṭha* and *śalyakṛnta* (surgeon) are synonymous. The Vaidyas of Bengal come to be the Ambaṣṭhas of Manu (vide Risley's Peoples of India, p. 114)."[33]

Such then is the intention of the law-givers.

This, we repeat, is not a stray thought. Beginning roughly from the sixth or fifth century B.C., the Indian law-givers go on repeating it for about a thousand years. Or, if we take into account also the late commentators of Manu like Kullūka Bhaṭṭa—placed by Kane between A.D. 1150-1300—the legal contempt expressed for medicine and its practitioners covers a much longer period. Yet there is something apparently very strange about all this, because nowhere do the law-givers care to explain the real ground for their contempt for medicine. The condemnation of the doctors is just decreed, as if the sense of degradation and filth attached to them is too obvious to require any explanation.

The medical compilations at any rate give us the impression that there is nothing in the medical norm itself to justify the sense of filth or pollution attached to the doctors. Personal cleanliness or *śauca,* as we have already seen, is considered as important for the ideal physician as his theoretical knowledge, wide range of experience and practical skill.[34]

It is tempting to quote here two passages from the medical compilations to show the kind of persons and their personal qualities, in whom the law-givers sense so much of defilement. Describing the young men who alone are entitled to medical studies, the *Caraka-saṃhitā* says,

"He should be peaceful (*praśānta*), noble in disposition, incapable of any mean act (*a-kṣudra-karman*), with straight eyes, face and nose, with slim body, having a clean and red tongue, without distortion of teeth and lips, with clear voice (i.e. with voice neither indistinct nor nasal), persevering, without egotism,

33. *Ib.* ii.71-2. 34. *Caraka-saṃhitā* i.9.6.

intelligent, endowed with powers of reasoning and good memory *(vitarka-smṛti-sampanna)*, with broad mind *(udāra-sattva)*, inclined to medical study either because of being born in the family of physicians or by natural aptitude, with eagerness to have the knowledge of truth (*tattva-abhiniveśin*), with no deformity of body and no defect of sense-organs, by nature modest and gentle, contemplating on the true nature of things (*artha-tattva-bhāvaka*), without anger and without addiction, endowed with good conduct, cleanliness. good habits, love, skill and courtesy (*śīla-śauca-ācāra-anurāga-dākṣya-pradākṣiṇya-upapanna*), desirous of the welfare of all living beings, devoid of greed and laziness (*alubdham analasaṃ sarva-bhūta-hitaiṣiṇam*) and having full loyalty and attachment to the teacher."[35]

This passage of the *Caraka-saṃhitā* is to be read along with the following from the *Suśruta-saṃhitā*, which describes "the essential qualifications of a physician before he formally enters his profession" :

"He should be cleanly in his habits and well shaved, and should not allow his nails to grow. He should wear white garments, put on a pair of shoes, carry a stick and an umbrella in his hands, and walk about with a mild and benign look as a friend of all created beings, ready to help all, and frank and friendly in his talk and demeanour, and never allowing the full control of his reason or intellectual powers to be in any way disturbed or interfered with."[36]

These passages are quoted for emphasising only one point. If from the viewpoint of the medical norm so much care is taken by the physicians for selecting their students and allowing them to enter the medical profession, there is no reason to imagine that the doctors and surgeons lived some kind of unclean or undignified life, justifying the law-givers' contempt for them. The actual reason for this contempt is evidently to be sought elsewhere. Pending a fuller enquiry into this, we shall mention here only one evidence of the legal literature, which seems to indicate that certain basic ideological issues

35. *Ib.* iii.8.8. 36. *Suśruta-saṃhitā* i.10.2. Tr B.

may not be unconnected with this otherwise unexplained contempt.

According to Manu, certain modes of obtaining the livelihood are too derogatory to be normally allowed to the *dvija*-s or members of the privileged classes. Only under exceptional conditions causing dire distress, the law-giver grudgingly allows the *dvija*-s to go in for these. Their list, as given by the law-giver, is : *vidyā śilpaṃ bhṛtiḥ sevā gorakṣaṃ vipaṇiḥ kṛṣiḥ*,[37] i.e. learning, crafts, wage-earning, servitude, cattle-raising, shopkeeping, agriculture, etc. Specially puzzling about this list is the item mentioned first, viz. *vidyā*, which means 'learning' or cultivating some branch of knowledge. There is not much difficulty to understand why wage-earning, servitude, etc., are to be considered normally incompatible with noble birth. But what possibly is wrong about *vidyā* or learning, so that a *dvija* should be advised to avoid it normally, or to accept it only under conditions of dire distress ? The commentators Medhātithi and Kullūka Bhaṭṭa naturally feel that some clarification is necessary about this point. The clarification offered by both is quite striking. The word *vidyā* or learning is to be understood here in a specific sense. It is learning or 'discipline' in its non-scriptural or anti-scriptural form, i.e. in the form in which the physicians, logicians, poison-removers, etc., understand it. As Kullūka Bhaṭṭa very pointedly says : *vidyā vedavidyā-vyatirikta-vaidya-tarka-viṣāpanayana-ādi-vidyā*—"by learning is meant here those specific forms of learning which are different from the learning of the Vedas, as for example the kind of learning cultivated by the physicians, logicians, poison-removers etc."

Two points about this clarification need specially to be noted. First, the kind of learning the physicians cultivate is not only characteristically different from scriptural learning but also derogatory from the standpoint of the latter. Hence, though the persons of noble birth are encouraged to cultivate learning in the scriptural sense, they are under normal conditions forbidden to study medicine. This is in full agreement with

37. Manu x.116.

what the law-givers elsewhere declare : persons with noble birth must not go in for medicine. Secondly, to the general class of learning considered derogatory from the scriptural standpoint belong—along with medicine—certain other disciplines, two of which are specially prominent. These are learning or *vidyā*-s in the sense in which the logicians and poison-removers are specially concerned. There may not be anything odd in the mention of the poison-removers along with the physicians, because poison-removing is considered an important part of the ancient medical technique.[38] But why is the mention of the logicians in the same context ? There is only one answer to this. In the law-giver's understanding, medicine and logic are very closely related. Here, at any rate, the law-giver's thesis is not fanciful. We have already seen how the physicians themselves fully approve of it. Accomplishment in logic is a necessary prerequisite for medical studies. At the same time, where the law-givers differ from the physicians must not be overlooked. The former detest logic and this for the simple reason that an excessive indulgence in logic encourages heresy or the tendency to question the scriptures.[39] Assuming therefore that the commentators like Medhātithi and Kullūka Bhaṭṭa do not misunderstand Manu, we may see in the law-giver's declaration some indication of ideological considerations involved in the otherwise unexplained legal contempt for the physicians.

Our next question is : Can we follow up this indication of *Manu-smṛti* and have a fuller idea of the ideological grounds for the contempt heaped on the physicians and surgeons ?

3. NATURE AND SOURCE OF LAW-CODES

That the real ground for the damnation of doctors by law-givers is primarily ideological can perhaps be better seen by

38. *Caraka-saṃhitā* vi.23 & *Suśruta-saṃhitā* Kalpa-sthāna.
39. Chattopadhyaya WLWD 185ff.

us if we take note of the actual source and nature of the Indian legal literature. This literature originates in the priestly corporations, and has primarily the purpose of validation and preservation of hierarchical society of which the priests are the earliest theoreticians. The ideological requirements they feel for the purpose flatly go against the theoretical positions felt indispensable for positive science by the ancient doctors. In the legal contempt for the physicians, in short, we see the counter-ideologey taking its stand against positive science or the promises thereof. That is why it is not a stray theme of the Indian legal literature. Further, as we are going to see, this contempt takes shape in the priestly literature, already before the law-codes assume a relatively independent form.

The earliest Indian law-codes, as already mentioned, are called the *Dharma-sūtra*-s. In these works, as Kane [40] shows, the word *dharma* already acquires the sense of "the privileges, duties and obligations of a man, his standard of conduct as a member of the Aryan community, as a member of the castes, as a person in a particular stage of life." The discussion of all these necessitates the clarification of many topics that belong to law in the later restricted sense. Some of these are : "the peculiar duties of the four castes, the responsibilities of the king, taxation, sources of ownership, treasure-trove, guardianship of minor's wealth, punishments for libel, abuse, assault, hurt, adultery and rape, theft in the case of several *varṇa-s* and rules about money-lending and usury and adverse possession, special privileges of brāhmaṇas as to punishments, payment of debts, deposits, rules about witnesses, falsehoods when excusable," etc. [41]

Had the *Dharma-sūtra*-s been concerned only with topics like these, they could have been considered "law-literature" in our sense. But the fact is that over and above the discussion of all these, the texts also prescribe—usually with greater zeal—rules about many practices which more properly belong to the context of the religo-ritual techniques in which the

40. Kane i.2. 41. *Ib* i.14.

ancient priests are most keenly interested. Here are some examples of what appear to us to be extra-legal matters in the earliest law literature : *upanayana* or initiation, rules about *śauca* and *ācamana*, rules about those not invested with sacred thread, the five great daily sacrifices, the rewards of gifts, *madhuparka*, methods of honouring guests of the several castes, rules about the avocations of a brāhmaṇa, avocations for him in distress, the forty *saṃskāra-s* and the eight spiritual qualities (such as *dayā*, forbearance, etc.), rules of impurity on birth and death, *śrāddha* of five kinds, persons not fit to be invited at *śrāddha*, period of Vedic study in the year, holidays and occasions for them, rules about food allowed and forbidden to brāhmaṇas and other castes, causes and occasions of *prāyaścitta*, five things that remove sin, purificatory Vedic prayers, sinners of various grades, *mahāpātaka*-s, *upapātaka*-s, etc., *prāyaścitta*-s of various sins, etc , etc. [42]

Therefore, though in the course of time the *Dharma-sūtra*-s acquire the absolute authority in legal matters, they actually represent Indian law still bound by the umbilical cord as it were with the ancient priest-craft from which these are born. As Winternitz puts it, "the *Dharmasūtras* originated in the closest association with the literature of rituals (Vedāṅga-kalpa). This association with the literature of rituals is still wholly manifest in the *Dharmasūtras*. Hence they are neither mere collection of rules, nor pure lectures on jurisprudence; but they, with predilection, deal with religious duties of man. They form the constituent elements of religious and Vedic literature. They, exactly as the old manuals, had sprung up in the Vedic schools and were written by Brahmins, priests and scholars for the purpose of imparting instruction and were not written as codes for practical use in the courts of law." [43]

From the viewpoint of the history of Indian literature also, many of the *Dharmasūtras* are known to have formed part of a wider class of literature—called Kalpa-sūtra—which are but priestly manuals concerned mainly with the rules and regulations concerning the ritual techniques. "It seems", says Kane,

42. *Ib.* i.14-5. 43. Winternitz iii. 538.

"that originally many, though not all, of the *Dharmasūtras* formed part of the Kalpa-sūtras".[44] Thus, some of the *Dharmasūtras* "like those of Āpastamba, Hiraṇyakeśin and Baudhāyana form part of a larger Sūtra collection, while there are others like those of Gautama and Vaśiṣṭha which do not form part of a larger collection."[45]

Significantly, it is mainly in the tradition of the *Kṛṣṇa-yajurveda*—which is the earliest ritual work with explanatory passages added to the ritual formulas—that the original pattern of *Dharmasūtras* forming part of priestly manuals of wider range is best preserved for us. As Winternitz observes, "Only in the Black Yajurveda schools of Baudhāyana and of Āpastamba do we find Kalpa-sūtras containing all the four kinds of *sūtra* texts,—Śrauta, Gṛhya, Dharma and Śulva—sūtras; and in these cases it can also be proved that these works are indeed so interconnected that, to a certain extent, they can be regarded as the four volumes of a uniform work. It is possible that Baudhāyana and Āpastamba were actually the authors of complete Kalpa-sūtras comprising all the four kinds of texts. But even if they were not the actual authors, at all events, the Śrauta, Gṛhya, Dharma and Śulva-sūtras of the Baudhāyana and Āpastamba schools are works composed in each case on a uniform plan, of these two schools of *Yajurveda*."[46]

We have mentioned all these in order to emphasise that what come down to us as law-codes of ancient India do not embody laws in the secular sense. These have their origin in the priestly manuals concerned mainly with ritual techniques and come down to us as completely dominated by the aims and aspirations of the ancient priest-class. Indian legal literature retains this character throughout its subsequent career. Much that is discussed in it are frankly the components of the religo-ritualistic complex and even what are declared in these as laws in the comparatively later sense remain under the commanding influence of this complex. Thus, in short, beginning from its earliest career of incomplete emancipation from

44. Kane i.10. 45. *Ib.* i.9. 46. Winternitz i.277.

the religo-ritualistic complex, Indian law-codes remain throughout their subsequent career under the spell of the ideology or manner of viewing things characteristic of the ancient priests.

Since the science-policy of the Indian law-givers is the direct outcome of this ideology, we shall have to take note of some of its prominent features for a proper understanding of the law-givers' contempt for the physicians. For this purpose, we shall have to move backwards from the Kalpa-sūtras to the vast prose literature called the *Brāhmaṇa*-s and also to the *Yajurveda*, which are the earliest literary records of the class-conscious priests formulating their ideological requirements.

4. FROM ṚGVEDA TO BRĀHMANA-S : BIRTH OF COUNTER-IDEOLOGY

The *Brāhmaṇa* texts are traditionally viewed as forming parts of the Vedas, and these come down to us as appended to the ancient *saṃhitā*-s.

The word *veda* means knowledge, though to the followers of Vedic orthodoxy it means the most infallible knowledge directly revealed. Concretely the name stands for the literary products of those people who call themselves the Aryans or 'nobles' and who, it is usually assumed, migrate into northern India as pastoral nomad tribes, without the art of writing but with a fabulous literary gift strangely combined with tremendous skill in warfare.

The earlier portions of this literature consist of songs, charms and hymns. These are orally composed and transmitted to later generations by an amazingly meticulous retentive memory—a circumstance that accounts for their descriptive epithet *śruti* or "that which is heard." To us these come down in the form of enormous compilations or *saṃhitā*-s, a form traceable to considerable antiquity. Of these compilations, the earliest and

considered most important is the *Ṛgveda*. There are in addition three other compilations, called the *Atharvaveda, Sāmaveda* and *Yajurveda*.

The *Ṛgveda* contains 1,028 songs with a total of 10,552 verses. The composition of all these must have taken a very long period. For the modern scholars, its inner chronology is naturally a formidable problem, which they are still groping to solve. This much is certain that some of these songs are considerably earlier than the others. Any hasty generalisation about the early Vedic people based on some stray Ṛgvedic evidence is thus liable to be fallacious. The oft-quoted hymn called the *Puruṣa-sūkta*, for example, speaks of the four castes. Judged by the standard of modern scholarship, however, the date of this particular hymn proves to be very late. Serious modern scholars are on the whole agreed that the genuinely earlier strata of the *Ṛgveda* are unaware of the society split into different castes.

The early songs of the *Ṛgveda*, which often surprise us by their primitive vigour and uninhibited imagination, have for their main theme the almost complete obsession with the problem of physical survival. These express endlessly as it were the desire for food, cattle, progeny, victory, and so on. All this is mixed up with the mythological imagination of a people who see deities in things they do not understand and which, therefore, fill them with awe easily passing into reverence—in the natural phenomena like the sun and wind, fire and forest, in the extraordinary might of their war chiefs and heroes, in the intoxicating power of their drink *soma*, and so on. The deities are important for them, because they are supposed to be aids to the fulfilment of elemental desires. As people with rudimentary control over nature, the poets see deities even in their frankly pathetic wishfulfilments like the prevention of abortion and the cure of pthisis.

People at such a stage of development are not expected to develop ideology in the later priestly sense and the fact is that the earlier strata of the *Ṛgveda*—though aware of the priests—are unaware of the later priestly ideology. Except for some

late songs in this vast collection, the question of the castes and caste-privileges does not have any place in the *Ṛgveda*. We shall presently see the implication of this for our main question concerning the social status of the physicians and surgeons.

The next phase of the Vedic literary activity can be traced to the *Yajurveda*, which is a compilation mainly of sacrificial formulas, the more typical of which are in prose sentences called the *yajus*, from which the *Yajurveda* takes its name. This compilation reaches us mainly in two versions, called *Śukla-yajurveda* or White Yajurveda and *Kṛṣṇa-yajurveda* or Black Yajurveda. The main difference between the two consists in this that while the former contains only the Mantras or sacrificial formulas, the latter contains over and above such formulas "theological discussions" on the rituals—discussions that are technically called the *Brāhmaṇa*-s. These theological discussions eventually assume the form of a vast literature, the *Brāhmaṇa*-s proper, which take an all-absorbing interest in the sacrificial rituals called *yajña*.

The rituals must have originally been among the ancient Vedic tribes something like the magic rites still to be observed among some present-day primitive tribes surviving in certain pockets of the modern world. Their essence, as is shown by the right analysis of ethnographical materials, consists in enacting "in fantasy the fulfilment of the desired reality. That is magic, an illusory technique supplementary to the real technique. But though illusory it is not futile." The ritual performance cannot have any appreciable effect on nature ; but it can and does have an appreciable effect on the otherwise helpless primitive performers themselves. Inspired by the belief that it will bring into being the desired reality, they proceed to the task of actually bringing it into being with greater confidence, and so with greater energy than before. Hence it does have some effect on nature after all. "It changes their subjective attitude to reality, and so indirectly it changes reality."[47] The magic dance of the

47. Thomson SAGS i.440ff.

primitive hunters makes them better hunters and, in this sense, ensures for them greater success in actual hunting.

As illusory techniques intended to aid the real technique, magic rites are originaliy not unconnected with *man's struggle with nature*. As discussed in the *Brāhmaṇa* texts, however, the *yajña*-s or magic rituals are uprooted from their original context of tribal life, and their function passes into its opposite. These tend to become consciously enforced illusions and hence tools for a new technique—that of *man's struggle against man.*

This point is crucial for the new ideology of the priest-class and is in need of some elucidation. That the main features of the hierarchical society—or at least its norm—assume very clear forms in the *Yajurveda* and *Brāhmaṇa* texts is generally admitted. What requires to be added to it is that along with the emergence of the hierarchical norm, the need is also felt for ways of implementing and stabilising it. These are ruthless violence and massive superstition. If the early despots—the kings and nobles—take charge of the former, the priests take charge of the latter. The priestly way of describing this job-division is to say how the "lordly power" requires to be supplemented by the "holy power." The *Aitareya Brāhmaṇa* says, "The weapons of the holy power are the weapons of sacrifice ; the weapons of the lordly power are the horse-chariot, the corslet, the bow and arrow."[48] In the priestly version of the mutual relation of the two, the lordly power, while wanting to derive full benefit of sacrificial technique for itself, has to surrender to the holy power. "Thus the lordly power", continues the *Aitareya Brāhmaṇa*, "having laid aside its own weapons, with the weapons of the holy power, with the form of the holy power, becoming the holy power, went to the sacrifice. Therefore now also the Kṣatriya, as sacrificer, having laid aside his own weapons, with the weapons of the holy power, with the form of the holy power, becoming the holy power, goes to the sacrifice."[49] Admitting some exaggeration of the importance of holy power in this, there is no reason to reject the entire state-

48. *Ait. Br.* vii. 19. Tr Keith. 49. *Ib.*

ment as fictitious, because lordly power or raw violence is known also to depend on holy power for the simple reason that superstition too is a very effective instrument for keeping the masses under control. Confronted with this problem, Plato and Isocrates look back admiringly at the petrified culture of ancient Egypt, where the law-givers make the most marvellous use of superstition.[50] Admiring the Romans, Polybius says that superstition is the very foundation of Roman greatness. "It is not for nothing", he adds, "but with deliberate design that the men of the old introduced to the masees the notions about gods and the concepts of after life. The folly and heedlessness is ours who seek to dispel such illusions."[51]

In the *Brāhmaṇa* texts we do not have such a lucid analysis of the social function of superstition. But these leave us with no doubt about the magnitude of the problem of keeping the masses under control felt by its authors. In the hierarchical society visualised by it, apart from the Kṣatriyas and Brahmins representing the lordly power and holy power, there are the farmer-traders called Vaiśyas and the vast masses of direct producers lumped together under the general category of the Śūdras. From the standpoint of the direct plunderers—the kings and nobles—the *Aitareya Brāhmaṇa* wants to define the exact status of the other three and declares : the Brahmin is "an acceptor of gifts, a drinker (of Soma), a seeker of livelihood" ; a Vaiśya is "a tributory to another (i.e. the king or noble), to be eaten by another, to be oppressed at will" ; a Śūdra is "the servant of another. to be removed at will, to be slain at will."[52]

With all their ponderous discussions of the rituals or *yajña*-s, the *Brāhmaṇa* texts are throughout motivated—directly or indirectly—to defend this hierarchical norm. The point is too obvious to be missed and Eggeling, in the introduction to his translation of the *Śatapatha Brāhmaṇa*, observes : "The *Brāhmaṇa*-s, it is well known, form our chief, if not our only, source

50. Chattopadhyaya WLWD 178ff. 51. Polybius quoted by Farrington HHAG 102. 52. *Ait. Br.* vii. 29. Tr Keith.

of information regarding one of the most important periods in the social and mental development of India. They represent the intellectual activity of a sacerdotal caste which...was ever intent on deepening and extending its hold on the minds of the people, by surrounding its own vocation with the halo of sanctity and divide inspiration. A complicated ceremonial, requiring for its proper observance and consequent efficacy the ministrations of a highly trained priestly class, has ever been one of the most effective means of promoting hierarchical aspirations. Even practical Rome did not entirely succeed in steering clear of the rock of priestly ascendancy attained by such-like means...The Roman statesmen submitted to these transparent tricks rather from considerations of political expediency than from religious scruples ; and the Greek Polybius might well say that 'the strange and ponderous ceremonial of Roman religion was invented solely on account of the multitude which, as reason had no power over it, required to be ruled by signs and wonders."[53]

This change in the content of the Vedic literature—the great anxiety for the strange and ponderous ceremonials—transforms also its form. Instead of the inspired poetry of the *Ṛgveda*, we have in the *Brāhmaṇa* texts only insipid prose—in fact the dullest and most cumbrous style in Indian literature. One reason of this insipidity is the untiring effort to evolve symbolic interpretations of ritual trivialities, in the course of which scraps of Ṛgvedic verses—invariably torn out of their original context and usually with strange meanings read in them—are quoted in the *Brāhmaṇa*-s.

Such trivialities, though meaningless for us[54], are not irrelevant for the authors of the *Brāhmaṇa*-s, who try their best to use these to validate the new hierarchical norm that emerges on the ruins of the ancient tribal one, inspiring the early "seers" of the *Ṛgveda*. This new norm is that of the split society in which the powers and privileges belong to the kings and nobles, though secondarily also to their ideological apologists, the

53. Eggeling in SBE xii. intro pp.ix-x. 54. Winternitz i.187ff

priests, who, strongly insist that their ideological service must be paid for.[55] For the purpose of feigning continutity with the ancient Vedic tradition, the essential features of the new social norm are sometimes projected back on early Vedic mythology.

Thus for example the group of gods called Maruts are now made to stand for the common people while despotic power is represented by Indra and Varuṇa. Here are only a few examples from the *Śatapatha Brāhmaṇa* :

"Varuṇa, doubtless, is the nobility, and the Maruts are the people. He (the priest) thus makes the nobility superior to the people. And hence people here serve the Kṣatriya, placed above them."[56]

"He muttered that verse addressed to Indra and referring to the Maruts. Indra indeed is the nobility, and the Maruts are the people... 'They shall be controlled', he thought, and therefore that verse is addressed to Indra."[57]

"Now some, on noticing some straw or piece of wood among the Soma plants, throw it away. But let him not do this ; for—the Soma being the nobility and the other plants the common people, and the people being the noblemen's food—it would be just as if one were to take hold of and pull out some food he has put in his mouth, and throw it away."[58]

Some ritual detail is sought to yield the symbolic interpretation of what "makes the Kṣatra superior to the people. Hence the people here serve, from a lower position, the Kṣatriya above them."[59] Similarly, another ritual detail is intended to show how "the Kṣatriya, whenever he likes, says, 'Hallo Vaiśya, just bring to me what thou hast stored away.' Thus he both subdues him and obtains possession of anything he wishes by dint of his very energy."[60]

And so on and on—almost endlessy in the *Brāhmaṇa* texts. Though with the exterior of religion and ritual, all this is

55. A persistent theme of the *Brāhmaṇa* texts is that the sacrificial fee is indispensable for their efficacy : *Ait. Br.* vi. 36 ; *Kauṣ. Br.* xv.1 ; *Śat. Br.* xi.1.3.7 ; xii.7.1.4 ; xiv.1.1.32 ; etc. 56. *Śat. Br.* ii.5.2.6.
57. *Ib.* ii 5.2.27. 58. *Ib.* iii.3.2.28. 59. *Ib.* i.3.4.15.
60. *Ib.* i.3.2.15.

crass politics. The main point of this politics is man's struggle againt man—to keep the masses subdued, so that the plunderer may feel free to extract from them whatever he wants. In short, we have in the *Brāhmaṇa*-s the political philosophy of free exploitation dressed in the holy robe of ritual and religion. The science policy of the Indian law-givers, we shall see, not only follows from this political philosophy but is also fully anticipated by it.

5. EARLY ṚGVEDIC PERIOD

But this political philosophy, it needs at once to be noted, is something new altogether in the Vedic tradition. When we move backwards from the *Yajurveda* and *Brāhmaṇa* texts to the genuinely earlier strata of the Ṛgvedic songs, we seem to enter into a totally different thought-world as it were. With their control over nature still extremely rudimentary, the ancient Vedic peoples are yet to visualise any situation in which a section of the community wants to thrive on the plunder of the surplus produced by another. What the poets care for is the collective life of the community in which they see the hope of its survival and safety. I have elsewhere attempted an extensive survey of the inspired songs of the *Ṛgveda* in praise of this collective life or its memory[61] only a few of which may be repeated here.

We read in one hymn: "Those ancient poets (*kavayaḥ pūrvyāsaḥ*), the observers of *ṛta* were in joyful company of the gods (*devānāṃ sadha-mādaḥ āsan*)... Being united with common cattle (*samāne ūrve*, interpreted by Sāyaṇa as *sarveṣāṃ sādhāraṇe go-samūhe*) they become of one mind (*te saṃ jānate*, interpreted by Sāyaṇa as *te ekabuddhayaḥ bhavanti*) ; they seem to make common effort (*na yatante mithaḥ te*), nor do they injure the rituals of the gods. Not injuring each other, they

61. Chattopadhyaya L 560ff. 62. *Ṛv* vii.76.4-5.

move with wealths (*amardhantaḥ vasubhiḥ yādamānāḥ*)."[62] The "wealth" spoken of by these ancient poets may be extremely meagre compared to what is being produced by their descendants during the age of the *Yajurveda* and *Brāhmaṇa*-s. Still there is no question yet of a handful of plunderers trying to grab it; it is the common wealth of the community, or, as Sāyaṇa explains, "the common cattle of all"—*sarveṣāṃ sādhāraṇe go-samūhe.* This is the clue to the simple moral grandeur of the primitive poets—their conception of the *ṛta*, which, as we have noted, means some kind of primordial understanding of everything being governed by the moral-cum-natural law.[63]

Here are some other examples of songs in praise of the ancient collective life. "As in the past, he (Agni) generated the common wealth (*samānaṃ dhanam*) for the living beings."[64] "Let the common cow (*samānaṃ nāma dhenu*) be moving swiftly."[65] "We invoke Indra, the custodian of the common wealth (*samānaṃ vasavānam*) and the giver of wealth for protection."[66] Significantly, the common ownership of wealth—mainly cattle—is not unconnected with the sense of instinctive morality or *ṛta* of the ancient days :

"Oh Agni, your brilliance comes to us and you brought the cows of *ṛta* equally to us (*ṛtasya dhenāḥ anayanta sasrutaḥ*. Sāyaṇa interprets *sasrutaḥ* as *samānaṃ gacchantyaḥ*)."[67]

The human beings, the assistance of whom the gods are frequently enjoying, are equal among themselves as are the gods whose company they keep. "Along with men, who are equal among themselves (*samānaiḥ nṛbhiḥ yat uktam*), Oh Agni, you killed the demons."[68] Men become equal to gods[69] and this from the times of "the fathers".[70] Indra protects the cows, kills Vṛtra and is equal to all.[71] The Nāsatyas sit in assemblies and drink *soma* with the human beings.[72] The Aśvins are equal in origin and in friendship.[73] And so on. Hundreds of verses like these may easily be cited from the *Ṛgveda*.

62. *Ṛv* vii. 76. 4-5.
63. see *supra* 55 ff.
64. *Ṛv*. iii. 2. 12.
65. *Ib*. vi. 66. 1.
66. *Ib*. viii. 99. 8.
67. *Ib*. i. 141. 1.
68. *Ib*. i. 69. 8.
69. *Ib*. iii 58. 6.
70. *Ib*. vii. 72. 2.
71. *Ib*. i. 127. 8.
72. *Ib*. vii. 73, 2.
73. *Ib*. viii. 73. 2.

But the ancient collective life is eventually disturbed—an assumption which alone accounts for the intense longing to get it back, as expressed in the admittedly latest stratum of the *Ṛgveda*: "Do ye concur; be ye closely combined; let your minds be concurrent, as the gods of old sat concurrent about their portion (*devāḥ bhāgaṃ yathā pūrve saṃjānānāḥ upa-āsate*). Be their counsel the same, their gathering the same, their course the same, their intent alike. I offer for you with the same oblation; do ye enter together into the same thought. Be your design the same, your hearts the same, your mind the same, that it may be well for you together."[74] This is to be read along with what we have already quoted from the *Ṛgveda*[75]—the intense desire of a comparatively later Vedic poet for the revival of *ṛta* of the ancient days.

But such desires of the ancient poets remain unfulfilled and we find the hierarchical aspirations along with the ideological requirements for these emerging in the *Yajurveda*, which assume the most grotesque and ruthless form in the *Brāhmaṇa* texts.

We are going to argue that the science-policy of the Indian law-givers—the characteristic expression of which is the damnation of the doctors—directly follows from these ideological requirements. Two sets of literary data need immediately to be mentioned in substantiation of this argument.

First, the early Ṛgvedic songs—far from showing any adverse attitude to the physicians and their healing art—are in fact ecstatic in praise of these.

Secondly, the *Yajurveda* and the *Brāhmaṇa* texts violently depart from the spirit of these early songs and come out with the clear denunciation of the doctors.

5. HEALING AND HEALERS IN ṚGVEDA

The Dharmasūtras or early Indian law-codes persistently declare that the ultimate source from which they derive their authority

74. *Ib.* x. 191. 2-4; AV vi. 64. Tr Whitney. 75. see *supra* 57.

is the Veda. Here are only two examples. The law-codes of Gautama open with the claim, "The Veda is the source of the sacred law" (*vedo dharmamūlam*).[76] So do the law-codes of Āpastamba, "The authority is the agreement of those who know the law and the authorities for the latter are the Vedas alone."[77]

It is well-known that according to the Vedic tradition itself the very foundation of the entire Vedic literature is the *Ṛgveda*. Manu himself, carried by his zeal to declare that of all the Vedas the highest authority is possessed by the *Ṛgveda*, says, "The *Ṛgveda* is declared to be sacred to the gods, the *Yajurveda* sacred to men" (*ṛgvedo devadaivatyo yajurvedaḥ tu mānuṣaḥ*).[78]

When therefore the law-givers express the most intense contempt for the physicians and surgeons, we are logically expected to see at least some sanction for this attitude in the *Ṛgveda* itself. But the *Ṛgveda* completely belies such an expectation. In fact, it introduces us to a thought-world altogether different, in which the healers and everything connected with the healing art are held in very high esteem.

An entire hymn of the *Ṛgveda*[79] is in praise of the healing herb or *oṣadhi*. The poet to whom it is attributed is mentioned as "the seer called Physician, son of the Atharvans"—*atharvaṇaḥ putrasya bhiṣak-nāma ārṣam*. We quote in rough rendering only two verses from it :

"Oh bright herbs, you are like the mothers. In your presence I promise to offer to the physician cows, horses, clothes and even myself...

"The wise physician is one round whom the herbs gather, in the way in which the chiefs gather round the king in the war-council. He wages war on sickness in all forms."[80]

Can this "seer" of the Veda, remembered in the Vedic tradition by the name Physician, really see a distant future in which the law-giver like Manu, while pretending to have the highest reverence for the *Ṛgveda*,[81] goes to the extent of declaring that the physician is so impure that even food offered to him becomes as filthy as pus and blood ? Evidently, whatever

76. Gautama i. 1. 77. Āpastamba i. 1. 1. 2-3 78. Manu iv. 124.
79. *Ṛv* x. 97. 80. *Ib*. x. 97. 4 & 6. 81. Manu ii. 158; iii. 131, etc.

may be the source of this contempt for physician, it has no sanction in the ancient poetry of the *Ṛgveda*. There is in other words something palpably dishonest about the law-givers in so far as they want to justify their laws on the authority of the *Ṛgveda*. The fact on the contrary is, as I have elsewhere tried to show in some detail,[82] the really ancient songs that remain compiled in the *Ṛgveda* are totally unaware of the hierarchical society and therefore also of any ideological need to justify it with the contempt for the techniques and the technicians, to which healing and the class of healers belong.

The analogy used in the hymn just quoted is archaic no doubt. So also is the mythological imagination in terms of which medical practice is often eulogised in the *Ṛgveda*. What concerns our present discussion, however, is *the fact of eulogising it* rather than *the way in which that is done*.

Some of the famous Vedic gods are specially praised in the *Ṛgveda* because of their skill in medical practice, or more simply for being outstanding physicians.

Rudra is invoked as the ablest of the physicians. "I have heard that you are the ablest of the physicians" : *bhiṣaktamaṃ tvā bhiṣajāṃ śṛṇomi*.[83] The same hymn specially praises the hands of Rudra with which he prepares medicines for all : *kva sya te rudra mṛlayākuḥ hastaḥ yaḥ asti bheṣajaḥ jalāsaḥ*—"Oh Rudra, where are your beautiful hands with which you prepare medicines benefitting all ?"[84] In another hymn, the same god is praised as lording over all the medicines that exist on earth : *yaḥ viśvasya kṣayati bheṣajasya*.[85]

Among the physician deities of the *Ṛgveda* is included Soma, who treats the ailing ones on earth : *bhiṣakti viśvaṃ yat turam*.[86]

Varuṇa is eulogised as possessing a hundred *bhiṣajaḥ*, which, as interpreted by Sāyaṇa, means either a hundred medicines or a hundred physicians : *śatasaṃkhyāni auṣadhāni vaidyā vā santi*.[87] Along with Mitra, Varuṇa is connected with Soma and this in the sense of medicine for the ailing.[88]

82. Chattopadhyaya WLWD 139 ff. 83. *Ṛv.* ii. 33. 4.
84. *Ib.* ii. 33. 7. 85. *Ib.* v. 42. 11. 86. *Ib.* viii. 79. 2.
87. *Ib.* i. 24. 9. 88. *Ib.* viii. 72. 17.

Water—deified in Vedic imagination—is specially praised as containing remedies or medicines : "In the waters exists ambrosia, in the waters exist all medicines (*apsu bheṣajam*). Let the sages be prompt in praise of waters. I am told by Soma that all the remedies exist in the waters (*apsu me somaḥ abravīt antaḥ viśvāni bheṣajā*).[89] In the custody of the All-gods (Viśvadeva), water becomes the healing agent or medicine : *āpaḥ it vā u bheṣajīḥ āpaḥ amīvacātanīḥ/ āpaḥ sarvasya bheṣajīḥ tāḥ te kṛṇvantu bheṣajam*—"Water itself is medicine : water causes the cure of diseases ; water is medicine for all diseases. Let that water act as medicine as administered by you."[90] In the same song wind or air is also eulogised as blowing in beneficial medicines.[91]

A song in praise of the Maruts says, "Oh dancing Maruts, with bright plates decorating your chests, men are moving towards you desiring your friendship... Oh Maruts, you are beautiful and magnanimous friends of ours, bring your medicines for us... Oh Maruts with beneficial rituals, aware as you are of medicines that exist in the Sindhu, in the Asiknī, in the oceans and mountains—bring all these for the welfare of our bodies and instruct us in their use for curing sickness. Oh Maruts, cure those that are sick among us and remove their physical imperfections."[92]

Many more examples like these may be easily quoted from the *Ṛgveda*. But that is not necessary. It is necessary only to note that all these do not represent any trend of stray thought in this vast collection of ancient hymns. These represent instead an important feature of the general theoretical temperament of the ancient poets, which they express by way of eulogising their deities for the superb skill in medical practice or for being directly or indirectly connected with the healing agents. There is no doubt that this poetry is basically of the nature of wish-fulfilment on the part of peoples with only rudimentary control over nature and as such it will be wrong to expect of it any impression of a sophisticated medical science. Indian medicine

89. *Ib.* i. 23. 19-20. 90. *Ib.* x. 137. 6. 91. *Ib.* x 137.3.
92. *Ib.* viii.20.20-6.

has indeed to develop a great deal in order to reach the stage represented by the *Caraka-saṃhitā* and *Suśruta-saṃhitā*. But that is a different point. What we are concerned with at present is not the *stage of development* of medicine but the *attitude to it*. If the ancient hymns show that medicine has yet to cover a long course to be anywhere near the stage it attains in the classical compilations on it, these also show that the contempt for it characteristic of the law-codes of later times is not even remotely foreshadowed in these early songs. The reason for this seems to be that these songs or hymns are not the products of the hierarchical society and are hence without the need of an ideology more interested in controlling man than struggling with nature, an ideology of which the science-policy of the law-givers—specially their damnation of medicine—is the outcome.

If the earlier strata of the Vedic literature want us to correlate the absence of the hierarchical aspiration with the absence of an attitude that proves hostile to medicine, the comparatively later development of the same literature indicates a positive correlation between the presence of the two. When we move forward from the ancient hymns of the *Ṛgveda* to the comparatively later works belonging to the same literature, we see one of the most amazing transformations in ancient Indian history. Just as there emerges the hierarchical norm on the ruins of the early Vedic one still full of the memory of the collective tribal life, so also there emerges a new theoretical temper on the ruins of that of the early poets—a theoretical temper completely under the grip of the hierarchical aspirations, or, in the language of the *Brāhmaṇa* texts, the aspirations of the "lordly power" in collusion with the "holy power." From these aspirations follow the contempt for medicine and its practitioners. This contempt assumes indeed a very dramatic form, inasmuch as the priests of the later Vedic literature find it obligatory for themselves to degrade and denounce some of the ancient gods, and this on the specific ground of their medical past.

The gods thus degraded and denounced are the Aśvins, who are physicians *par excellence* in the ancient Vedic mythology. We begin with some idea of their status in the *Ṛgveda*.

6. AŚVINS, THE DIVINE PHYSICIANS

"Next to Indra, Agni and Soma," observes Macdonell, "the twin deities named the Aśvins are the most prominent in the *Ṛgveda* judged by the frequency with which they are invoked. They are celebreted in more than fifty entire hymns and in parts of several others, while their name occurs more than four hundred times."[93]

Of their prominent qualities in the *Ṛgveda*, it is impossible to miss two. They are most "wonderful" and they are by nature "opposed to falsehood." "The two most distinctive and frequent epithets of the Aśvins are *dasra*, 'wondrous', which is almost entirely limited to them, and *nāsatya*, which is generally explained to mean 'not untrue' (*na-asatya*)."[94] Their aversion for untruth is indeed so fundamental that in the *Ṛgveda* Nāsatya is freely used as an alternative proper name for them. Like many other gods, they are frequently described to have very great wisdom.[95] But the distinctive feature of this wisdom—like their wonder-works—appears to be their grea tknowledge and skill in medicine.

This is crucial for understanding the special glory of the Aśvins in the mythological imagination of the early poets. We have just seen how in this mythology various gods are praised as superb physicians. Rudra, Soma, Varuṇa, Mitra, Ap, Maruts, Dyāvāpṛthivī, Viśvadevas and others are variously connected with medicine and its practice. Compared to the Aśvins, however, their connection with healing appears to be secondary. In Vedic mythology, the Aśvins are physicians *par excellence*. When the gods themselves are in need of medical help, they have to rush to the Aśvins. And so do the mortals, for whom the Aśvins are dearest deities specially in the capacity of the healers.

The Aśvins are addressed as the physicians of gods—*daivya*

93. Macdonell VM 49 94. *Ib.* 95. *Ṛv* vi.63.5 ; viii.8.2 ; x.93.7 ; etc.

bhiṣaja, which Sāyaṇa interprets as *deveṣu bhavantau cikitsakau*, "You two, who are the doctors of gods".[96] They also cure the diseases of all the suffering mortals.[97] It is because of this that they are so dear to the gods and men, in fact to everybody. As the refrain of one of the songs in praise of these "wonderful physicians" (*dasrā bhiṣajā*) puts it, "May our friendship with you be never snapped ; may we be freed from diseases" : *mā naḥ vi yauṣṭaṃ sakhyā mumocatam*.[98] The grand physicians, as the poets so intensely feel, are also the dearest friends of all.

A number of hymns of the *Ṛgveda*[99]. describe the most "wonderful" feats of the Aśvins. They rejuvenate the old, effect safe and painless delivery, give artificial limb to one who lost it, cure the burns, heal the wounds caused by leopards, etc., etc. Along with all these, the poets tell us how compassionate they are. "The story most often referred to is that of the rescue of Bhujyu, son of Tugra, who was abandoned in the midst of the ocean...The sage Rebha, stabbed, bound, hidden by the malignant, overwhelmed in the waters for ten nights and nine days, abandoned as dead, was by the Aśvins revived ... They delivered Vandana from calamity and restored him to the light of the sun, raising him up from a pit in which he lay hidden away as one dead ... They succoured the sage Atri Saptavadhri who along with his companions was plunged in a burning pit by the wiles of a demon ... The Aśvins even rescued from the jaws of a wolf a quail which invoked their aid ... They befriended Ghoṣā when she was growing old in her father's house by giving her a husband."[100] And so on.

The details of all these legends—like those of the obviously legendary accounts of the surgical and medical feats of the Aśvins—need not be taken at their face value. This is mythology, not history. Still, historically speaking, all these are not irrelevant, because they are undoubtedly indicative of a historical fact, viz. the general trend of the ancient Vedic thought. The poets dream of the model physicians as endowed not merely

96. *Ib.* viii. 18.8. Cf. *Av.* vii. 53,1. 97. *Ṛv.* viii. 22.10
98. *Ib* viii. 86.1-5. 99. *Ib.* i.116 ; viii. 22 ; x. 39.
100. Macdonell VM 52.

with the most wonderful medical skill and knowledge but also with a very strong compassion for all—a compassion that makes them the friendliest of all friends. To these the poets add that they have the firmest commitment to truth (*nāsatya*).

The level of medical knowledge and technique in the *Caraka-saṃhitā* and *Suśruta-saṃhitā* is understandably much higher than we can possibly expect in the ancient Vedic period. But at least a section of the later doctors seem to remain inspired by the image of the ancient Aśvins—a composite image of skill and wisdom combined with the commitment to truth and compassion for all.

7. CENSURING THE ANCIENT GODS : TAITTIRĪYA SAMHITĀ

In the *Yajurveda* however it is all different. The Aśvins are censured precisely for the reason for which the ancient poets of the *Ṛgveda* go ecstatic over their glory. The gods have to atone for their medical past in order to regain a place in the holy order approved of by the later priests. These priests moreover leave nothing vague about the need felt for censuring them. It follows clearly from their hierarchical aspirations. Medical practice demand of the ancient Aśvins far more commitment to democratic values than can possibly be tolerated by the social norm which the priests are so anxious to validate. Bloomfield is about the only modern scholar to note this point. As he puts it, medicine is condemned in the *Yajurveda* because "the practice entails promiscuous, unaristocratic mingling with men"[101]

Accordingly, the *Yajurveda* formulates the rule in so many words that a Brahmin must never practise medicine. If therefore the later law-givers have any Vedic sanction for thier condemnation of the physicians and their science, it is to be found in the *Yajurveda*. But the point is that the *Yajurveda* itself has to flout the more ancient Vedic values for the new

101. Bloomfield SBE xlii. intro p. xl.

purpose of condemning the physicians. In short, compared to the ancient times, the priests have a different ideological temper altogether. This temper proves inimical to medicine, i. e. to the ancient discipline with the greatest science-potentials because of its commitment to certain values found irreconcilable with the hierarchical norm.

Of the two main versions of the *Yajurveda*—viz. the White Yajurveda and Black Yajurveda – the second one is preserved for us in a number of recensions. One of these is called the *Taittirīya-saṃhitā*. We shall quote this first, because the priestly contempt for medicine and its practitioners is very clearly expressed in it. The context in which it is expressed is an apparently peculiar legend, according to which *yajña* or the sacrificial ritual was itself once in need of medical attention, because "its head was cut." The legend occurs also elsewhere in the Vedic literature and some of the modern scholars have tried to discuss its possible significance.[102] More important for our purpose than this legend is the sacrificial formulas in the context of which the *Taittirīya-saṃhitā* reiterates this legend. As one of these sacrificial formulas, the text[103] quotes a scrap of a Ṛgvedic verse[104] though, a Keith[105] shows, in a somewhat corrupt form. It invokes the Aśvins : "... Oh Aśvins, come hither to drink this *soma*". The *Yajurveda* prescribes that this Ṛgvedic scrap is to be recited as an appropriate incantation at a certain stage of performing the Soma sacrifice. But the texts of the Black Yajurveda give us not merely sacrificial incantations or formulas; to these are also added explanatory comments, which eventually become the special theme of the *Brāhmaṇa* texts. As an explanatory comment like this on the ritual use of the Ṛgvedic scrap, what the *Taittirīya-saṃhitā* says is startling. In rough rendering, it is as follows :

"The head of the sacrifice was cut.
The gods said to the Aśvins : 'You are the physicians. Repair

102. *Śat. Br*. xiv. 1.1.8.ff. Cf. Muir OST iv. 124.
103. *Tait Saṃ*. i.4.7. 104. *Ṛv*. i.22.i. 105. Keith VBYS i. 54n.

(replace) the head of the sacrifice.' (The Aśvins seem to bargain for the medical service requisitioned.)
They replied, 'Let us choose a boon. Let there be a libation for us also herein'. (The implication evidently is that in this Soma sacrifice the Aśvins are normally supposed to be denied of any share.)
(The gods agreed to this.) They drew this libation for them—for the Aśvins.
Then indeed did they (the Aśvins) repair the head of the sacrifice. In that (the libation) for the Aśvins is drawn; (it is) to restore the sacrifice.
The gods said of these two: 'Impure are they, wandering among men as physicians.'
Therefore, a Brahmin must not practise medicine, for the physician is impure—unfit for the sacrifice.
Having purified them (the Aśvins) by the Bahiṣpavamāna (*stotra*), they drew for them this libation for the Aśvins. Therefore, the libation for the Aśvins is drawn when (the purifying) Bahiṣpavamāna (*stotra*) has been sung. Therefore, by one who knows thus the Bahiṣpavamāna should be performed; verily he purifies himself."[106]

Let us first try to be clear about the implications of this remarkable passage.

It is of the nature of a didactic or theological discourse on the ritual use of a morsel of a Ṛgvedic text. Read in its actual context, it gives us the obvious impression of a simple and unqualified admiration for the Aśvins, which is characteristic of all the Ṛgvedic hymns mentioning them. But the theological discourse of the *Taittirīya-saṃhitā* proposes to amend it. The reason for this proposed amendment is not that the Aśvins suffer any loss of their wonderful medical skill; the real reason on the contrary is that they are supposed to retain it. In other words, in the later priestly view, the Aśvins remain excellent physicians—so excellent indeed that the gods have to approach them for healing

106. *Tait. Saṃ.* vi.4.9.

the injured *yajña.* In this, the later priestly view continues to be the same as that of the ancient poets or "seers" of the *Ṛgveda.* Where the priestly view breaks away from the older one is another point. There is obviously something wrong—something polluting—about the Aśvins, because of which they do not normally qualify themselves to receive the sacrificial share, as do the other gods. In the priestly way of thinking, bargaining is the most normal thing to do. In accordance with this, in the priestly theology the Aśvins are made to make a bargain, flouting again the Ṛgvedic spirit in which they cure the sick, moved only by the compassion and love for all. In the *Taittirīya-saṃhitā,* the Aśvins agree to render the medical service only on condition of being allowed a sacrificial portion. The other gods have to agree to this, though with some obvious reluctance. They are allowed the sacrificial share only after undergoing some process of ritual purification, i. e. after what the text calls purification by the Bahiṣpavamāna-stotra.

But what exactly is so wrong about these two ancient gods, so that they can be entitled to the normal status of the other gods only after being properly purified ? This question is crucial for our present discussion. So also it is for the *Yajurveda* priests, who want to leave nothing vague about their answer to it.

The text says,

"The gods said of these two : Impure are they, wandering among men as physicians"—*tau devā abruvan, apūtau vā imau manuṣyacarau bhiṣajau iti.*

To remove any possible uncertainty about the priestly norm, the text adds,

"The physician is impure, unfit for sacrifice. Therefore, a Brahmin must not practise medicine" : *tasmāt brāhmaṇena bheṣajaṃ na kāryam. apūtaḥ hi eṣaḥ amedhyaḥ yaḥ bhiṣak.*

8. OTHER RECENSIONS OF BLACK YAJURVEDA

The other recensions in which the Black Yajurveda survives for

us are called the *Kāṭhaka-saṃhitā*, *Kapiṣṭhala-kaṭha-saṃhitā* and the *Maitrāyaṇī-saṃhitā*. These also tell practically the same legend of purifying the doctor-gods, enabling us to see that the legend itself is a persistent theme of the Black Yajurveda.

The *Kāṭhaka-saṃhitā* says, "The head of the sacrifice has been cut. The Aśvins who did not drink *soma* were the doctors of the gods. The gods said to them, 'You are doctors ; put back the head of the sacrifice'. They replied, 'Let us demand a boon : that we may drink *soma* among the gods, that the libation be drawn for us also. The gods, having purified them by the Bahiṣpavamāna-stotra, drew the libation for them (and made them) the pure ones, the ones worthy of sacrifice. Thus it is that after the Bahiṣpavamāna has been recited, that the libation for the Aśvins is drawn'.[107]

The *Kapiṣṭhala-kaṭha-saṃhitā* repeats the passage only with minor verbal variations.[107]

The *Maitrāyaṇī-saṃhitā* says, "The head of the sacrifice has been cut. For him the gods searched an expiation. The Aśvins, who did not partake of *soma*, were the doctors of the gods. They ran to these two, as people rush to the doctors, and said, 'Put back the head of the sacrifice.' They replied, '(We shall do it provided) we should also have a share in the same.' 'Select', said the gods. They said 'That libation be drawn for us that we may be entitled to *soma* drinking. The Aśvins then put back the head. The gods having purified them by the Bahiṣpavamāna-stotra, drew the libation for them, who had become pure and worthy of sacrifice. Thus it is that after the Bahiṣpavamāna has been recited that the libation for the Aśvins are drawn."[109]

Among the texts quoted, only the *Taittirīya-saṃhitā* specifies the actual reason for the impurity of the Aśvins. Their medical career obliges them to move about among people, which, from the priestly viewpoint, causes impurity. Hence the text explicitly prohibits medical practice for the Brahmins. The other recensions of the Black Yajurveda do not tell this in

107. *Kāṭhaka Saṃ*. xxvii.4. 108. Filliozat 20n.
109. *Mait. Saṃ* iv.6.2.

so many words. But these do not even hint at any other ground for the alleged impurity of the Aśvins. Hence the presumption is that these other texts take it for granted that the Aśvins are impure because they are doctors, and the doctors are impure because medicine commits them to the democratic practice of mingling with the common people. Bloomfield argues that this point is suggested also by the *Maitrāyaṇī-saṃhitā* when it says, "as men run to the physicians" : *yathā bhiṣajam upadhāvanti.*[110]

This, Bloomfield continues,[111] seems to be corroborated by the later legal literature, which grows out of the priestly one. Contact with the masses in any form is detested in the law-codes. Even ritual undertaking on behalf of the masses is prohibited by the law-givers. In the funeral rite, declares Gautama, "Let him not feed a thief, a eunuch, an outcast, an atheist, a person who lives like an atheist, ...a person who sacrifices for women or a multitude of men."[112] Manu declares, "Let him not entertain at a *śrāddha*...those who sacrifice for a multitude (*pūgayajñiyāḥ=ye pūgān yajayanti*)"[113] The same law-giver adds, "A Brahmin must never eat at a sacrifice that is offered by......one who sacrifices for a multitude of men (*grāmayājikṛte*)."[114] Viṣṇu declares that one must not invite to a *śrāddha* "those who sacrifice for a multitude of persons."[115]

9. THE TRADITION OF WHITE YAJURVEDA : ŚATAPATHA BRĀHMAṆA

The White Yajurveda contains only *mantra*-s or sacrificial formulas, without any theological discourse on these in prose. The theological discourses are added to it in the form of separate *Brāhmaṇa* texts. The most important of such texts

110. Bloomfield SBE xlii, intro. p. xl. 111. *Ib.* p. xl. note.
112. Gautama xv. 16. 113. Manu iii, 151.
114. Manu iv. 205. 115. Viṣṇu lxxxii. 12.

appended to the White Yajurveda is the *Śatapatha Brāhmaṇa*. We can therefore take it as representing the true tradition of the White Yajurveda.

The *Śatapatha Brāhmaṇa* also tells us of the degradation of the physician-gods, though adding to the discourse on it a more complicated legendary context. To the "loss of the head of sacrifice" it adds with greater prominence and some erotic touch the Ṛgvedic legend of the Aśvins restoring youth to Cyavana[116]. But the essential point so clearly expressed in the *Taittirīya-saṃhitā* is retained in the *Śatapatha Brāhmaṇa* : the Aśvins are degraded for their medical career, because this career made them committed to indiscriminate association with all sorts of peoples.

The passage of the *Śatapatha Brāhmaṇa*, though lengthy, has its own interest and may be quoted here in full :

"Now when the Bhṛgus, or the Aṅgiras, attained the heavenly world, Cyavana, the Bhārgava, or Cyavana the Āṅgirasa, was left behind here (on earth), decrepit and ghostlike.

"But Śaryāta, the Mānava, just then wandered about here with his tribe, and settled near by that same place. His boys, while playing, setting that decrepit, ghostlike man at nought, pelted him with clods. He was wroth with Śaryātas, and sowed discord among them; father fought with son, and brother with brother.

"Śaryāta then bethought him,—'This has come to pass for something or other I have done !' He caused the cowherds and shepherds to be called together, and said—

"He said, 'Which of you has seen anything here this day ?'—They said, 'Yonder lies a man, decrepit and ghostlike; him the boys have pelted with clods, setting him at nought.' Then Śaryāta knew that this was Cyavana.

"He yoked his chariot, and putting his daughter Sukanyā thereon, he set forth, and came to the place where the *ṛṣi* (sage) was.

"He said, 'Reverence be to thee, O *ṛṣi* ; because I knew thee not, therefore have I offended thee; here is Sukanyā, with her

116. *Ṛv*. i.116.10 ; i.117.13 ; i.118.6 ; v.74.5 ; vii.68.6 ; vii.71.5 ; x.39.4.

I make atonement to thee : let my tribe live at peace together !' And from that same time his tribe lived at peace together. But Śaryāta, the Mānava, departed forthwith, lest he should offend him a second time.

"Now the Aśvins then wandered about here on earth performing cures. They came to Sukanyā and desired to win her love; but she consented not thereto.

"They said, 'Sukanyā, what a decrepit, ghostlike man is that whom thou liest with; come and follow us !' She said, 'To whom my father has given me, him will I not abandon, as long as he lives !' But the *ṛṣi* was aware of this.

"He said, 'Sukanyā, what have those two said to thee ?' She told him all; and, when she had told him, he said, 'If they speak to thee thus again, say thou to them. "But surely ye are neither quite complete nor quite perfect, and yet ye deride my husband !" and if they say to thee, "In what respect are we incomplete, in what respect imperfect ?" say thou to them, "Nay, make ye my husband young again, and I will tell you !"

"They came again to her, and said to her the same thing.

"She said, 'But surely ye are neither quite complete nor quite perfect, and yet ye deride my husband !' They said, 'In what respect are we incomplete, in what respect imperfect ?' She said, 'Nay, make ye my husband young again, and I will tell you !'

"They said, 'Take him down to yonder pool, and he shall come forth with whatever age he shall desire !' She took him down to that pool, and he come forth with the age he desired.

"They said, 'Sukanyā, in what respect are we incomplete, in what respect imperfect ?' The *ṛṣi* himself answered them,—'In Kurukṣetra yonder the gods perform a sacrifice and exclude you two from it; in that respect ye are incomplete, in that respect imperfect !' And the Aśvins departed forthwith, and came to the gods as they were performing a sacrifice, after the chanting of the Bhaiṣpavamāna.

'They said, 'Invite us thereto !' The gods said, 'We will not invite you : ye have wandered and mixed much among men, performing cures.'

"They said, 'But surely ye worship with a headless sacrifice !'—'How with a headless (sacrifice) ?'—'Nay, invite us, and we will

tell you !' —'So be it !' so they invited them. They drew this Aśvin cup for them; and those two became the Adhvaryu priests of the sacrifice, and restored the head of the sacrifice... —Hence this libation is drawn after the chanting of the Bahiṣpavamāna, because it was after the chanting of the Bahiṣpavamāna that they arrived."[117]

10. AŚVINS IN THE MAHĀBHARATA

In the Anuśāsana-parva of the *Mahābhārata* we read another version of the old legend of Cyavana and the Aśvins. Its special interest consists in working out the intensity of the contempt for the Aśvins.
Here is a brief summary of the *Mahābhārata* legend :

In ancient times, the great sage Cyavana—evidently pleased with the medical service received—promised to make the Aśvins entitled to Soma drinking. So he approached Indra, the lord among the gods, and said : 'Oh lord of gods, please permit the Aśvins to drink Soma in the company of the other gods'.

To this Indra replied, 'Oh venerable one, these two gods are outcasts for us and for us they are most degraded. Therefore, we can never drink Soma in their company. The request you have made is most undesirable. I shall certainly comply with any other request of yours.'

Cyavana said, 'Oh lord of gods, these two are but the sons of the Sun. Hence, (from the point of view of the nobility of their birth), they are surely entitled to drink Soma in your company. So agree to what I ask for ; that will make you happy. If, on the other hand, you disobey me, there would be no end to your danger.'

Indra said, 'Oh great sage, I shall never drink Soma in the company of the Aśvins, even though the other gods agree to this.'

117. *Śat. Br.* iv.1.5.1-15.

Cyavana then said; 'Oh lord of gods, if you do not easily listen to what I say, I shall this very day torture you and thereby coerce you to drink the sacrificial Soma in the company of the Aśvins.'

Saying this, Cyavana immediately started performing a ritual for the benefit of the Aśvins, and with charms and incantations he overpowered the gods. This made Indra mad with anger : with a huge rock on hand and his thunderbolt raised, he rushed at the sage Cyavana. Cyavana—the greatest among the ascetics—sprinkled some charmed water at him, which immediately immobilised Indra with his rock and thunderbolt. He also created, with his incantations and oblations, a terrible monster called Mada, which was about to swallow Indra and other gods, like a huge whale swallowing up the fishes.

Such a grave danger being created for the gods, they collectively addressed Indra : 'Oh lord, we have all decided to drink Soma in company of the Aśvins. Forget about your reluctance to it and bow down before Cyavana to pacify him.' Thus urged by the other gods, their lord Indra fell at the feet of Cyavana and agreed to the demand of the latter.

In this way, Cyavana forced Indra to allow the Aśvins to drink Soma in the company of the other gods. He relegated the monster Mada to gambling, boozing and womanising.[118]

The narrator of the *Mahābhārata* legend does not tell us why, in spite of their noble birth, the Aśvins are considered so degraded by the other gods, specially by their lord Indra. Apparently he takes it for granted that the reason for this is too well-known to be repeated.

11. CONCEALING THE COUNTER-IDEOLOGY : COBWEBS OF PEDANTRY

To sum up the discussion so far :

The counter-ideology taking shape from the *Yajurveda*

118. *Mbh.* Anuśāsanaparva clvi. 16 ff.

onwards breaks away violently from the inspired poetry of the *Ṛgveda* and, in its zeal to keep the masses under control, finds itself compelled to censure even some of the noblest Vedic gods, whose healing career was characterised by an unaristrocratic mingling with the common people. All this is clearly and categorically explained by the *Taittirīya-saṃhitā* and the *Śatapatha Brāhmaṇa*, the crucial passages of which may be reiterated.

The *Taittirīya-saṃhitā* says, "The gods said of these two (Aśvins) : Impure are they, wandering among men as physicians. The physician is impure, unfit for sacrifice. Therefore a Brahmin must not practise medicine." The *Śatapatha Brāhmaṇa* repeats, "The gods said to the Aśvins : We will not invite you ; you have wandered and mixed much among men, performing cure."

All this is mythology no doubt. But this is mythology with the most devastating implication for positive science, because it provides scriptural sanction to the hostility to science of the Indian law-givers.

In spite of this, some of the modern scholars like to imagine that the subsequent development of Indian medicine maintained continuity with the Vedic tradition. It proves specially unfortunate for the understanding of ancient Indian history when such scholars include Indologists of real eminence. One of them is Filliozat, before criticising whom one cannot but hesitate. But the criticism is not avoidable, because his zeal to trace the origin of the classical doctrine of Indian medicine to the Vedic tradition has the disastrous result of virtual denial of such doctrine and the substitution of it by some second-rate mythological cosmogony already discarded in the *Caraka-saṃhitā*. Before passing on to see this, it is necessary to note another point. As a precondition for this substitution, Filliozat finds it necessary to invent some tortuous interpretation of the Yajurvedic evidence so clearly condemning the physicians and their healing practice. The passage of the *Taittirīya-saṃhitā* censuring the doctors, he argues, is rather to be understood as the simple expression of sectarian differences among the

schools of Yajurvedic priests themselves. Let us first see how he attempts this.

"The name of Caraka", says Filliozat, "is an old one. It is that of a school of the Black Yajurveda, the Caraka-śākhā, which consists of, besides other subdivisions, those whose *saṃhitā*-s have reached us in a more or less complete form under the names of *Kāṭhaka, Kapiṣṭhala-kaṭha-saṃhitā* and *Maitrāyaṇī-saṃhitā*. This school is opposed to that of the Taittirīyas, which has given us the *Taittirīya-saṃhitā*, and for stronger reasons, to the schools of White Yajurveda represented by the *Vājasaneyī-saṃhitā*. The scholars of the White Yajurveda and the Taittirīyas often blame the Carakas."[119] Hence, argues Filliozat, the passage of the *Taittirīya-saṃhitā* under discussion "could be interpreted as covering under the same reprobation the Carakas and the Doctors."[120]

Something is obviously very strange about the entire argument. Not that there is no school of Yajurvedic priests usually referred to as the Caraka-adhvaryus. But, as we shall presently see, the reading of any reference to them in the passage of the *Taittirīya-saṃhitā* is completely unwarranted. Besides, even admitting any reference like this, why should the passage cover under the same reprobation the Caraka-adhvaryus and the doctors, unless there is any connection between the two ? The minimum onus for the thesis is thus the establishment of such a connection. Filliozat makes no effort whatsoever to do it. He simply exploits instead the association of the word *caraka* with the medical compilation, without trying to be clear about its possible significance. Moreover, the obvious question remains : why should the *Taittirīya-saṃhitā* drag in the Aśvins and pronounce impurity on them, if its main purpose is to censure the rival priests called Caraka-adhvaryus ? It needs to be noted that this censuring of the Aśvins is a persistent theme of the entire Yajurvedic tradition that comes down to us : it is expressed also in the texts which, according to Filliozat, belong to the Caraka-

119. Filliozat 19. 120. *Ib.*

adhvaryus themselves—the *Kāṭhaka*, *Kapiṣṭhala-kaṭha-saṃhitā* and *Maitrāyaṇī saṃhitā.*

Filliozat's solution of all these problems is quite simple. He observes, "The different *saṃhitā*-s are thus unanimous in admitting the impurity of the Aśvins who are not *soma*-drinkers originally, although as says the *Ṛgveda*, 'the drinkers of nectar' *(madhupa* : 1.180.2). But the *Taittirīya-saṃhitā* goes a step further than the rest; it vilifies the doctor and says that the Aśvins are impure like the 'doctors roving among men.' Certainly the promiscuity with human beings places them below the gods, but the term employed to say that they are 'roving', *cara*, is a synonym of the name of the Carakas, and one may believe that the Taittiraīyas have fired a passing shot at the rival school of Carakas, who have not inserted anything similar in their *saṃhitā*-s."[121]

This is but a cobweb of pedantry fabricated with tissues of oblique hints. We could have ignored it if it did not amount to concealing the fact of the first hostility to medicine as the necessary outcome of the counter-ideology taking shape in the priestly corporations. The story of intra-priestly rivalry which Filliozat wants us to see in the Yajurvedic passages is only an academic trick intended to distract our attention from this fact. In order not to be deceived by it, we have to examine it in some detail.

The other texts of the Black Yajurveda, Filliozat agrees, censure the Aśvins, as does the *Taittirīya-saṃhitā.* But though this is done in terms of the same legends and ritual formalities, the actual reason for it is not the same as explained in so many words in the *Taittirīya-saṃhitā.* On the contrary, there is something about the Aśvins in the more ancient Vedic tradition which justifies the main points on which all the versions of the *Yajurveda* are agreed. First, the Aśvins are not *soma*-drinkers even in the *Ṛgveda.* Secondly, their promiscuity with human beings places them below the other gods. Along with the texts of the Caraka-adhvaryus, the *Taittirīya-saṃhitā* continues the ancient Vedic tradition. Where the *Taittirīya-saṃhitā* differs

121. *Ib.* 20-21.

from these other texts is to pronounce some passing aspersion on the Caraka-adhvaryus, and this is proved by the use of the word *cara*, an equivalent of Caraka.

Let us first examine the grounds for the alleged continuity of the basic Yajurvedic tradition with the Ṛgvedic one.

The priestly way of censuring the Aśvins is to say that they are not entitled to *soma*, as the other gods normally are. But Filliozat wants us to believe that it will be wrong to see in this any changed attitude to the Aśvins, because the Aśvins are not originally *soma*-drinkers inasmuch as in the *Ṛgveda* also they are described instead as drinkers of *madhu*. This, if true, establishes some continuity between the Ṛgvedic tradition and the Yajurvedic legends. But this is not true. Not that the Ṛgvedic mythology does not connect the Aśvins with *madhu* or honey;[122] but this is not done by excluding them from the normal company of the other gods delighting in *soma*. Only a few passages of the *Ṛgveda* in rough rendering are enough to show how much of suppression of direct evidences is required by the oblique hint on which Filliozat hopes to build up his thesis. In a hymn addressed to the Aśvins in the *Ṛgveda*, we read :

"Oh Aśvins, along with Uṣas and Sūrya, drink *soma* in the company of Agni, Indra, Varuṇa, Viṣṇu, the Ādityas, Rudras and Vasus. Mighty Aśvins, drink *soma* with the intelligent, with all creation, with heaven, with earth, with mountains, with Uṣas and Sūrya. Oh Aśvins, drink *soma* with the thirtythree gods, be the partakers in this rite, along with the Maruts and Bhṛgus, with Uṣas and Sūrya ... Oh divine Aśvins, come to the effused *soma* like a pair of *hāridravas* (bird with yellow-coloured plumes) plunging into water or like a pair of buffaloes plunging into water. Do come with Uṣas and Sūrya from the three directions. Oh Aśvins, come down—with Uṣas and Sūrya—to *soma* from three directions, like a pair of geese, like a pair of travellers, like a pair of buffaloes rushing to water ..."[123]

The hymn is a long one. Its most prominent theme is the invitation of the Aśvins to drink *soma* in the company of other renowned Vedic gods. In another hymn, the poet sings,

122. Macdonell VM 49. 123. *Ṛv*. viii. 35. 1-8.

"Oh Aśvins, your old friendship with us is so desirable and beneficial ! Oh the two leaders, you have wealth in Janhu. Receiving your friendship over and over again, we have become equal to you two. We are going soon to please you with exhilarating *soma*. Oh the ever-young Aśvins endowed with power, completely uncontaminated by untruth, unwearied, munificent, acceptors of libations, with Vāyu and your steeds, drink and rejoice together the *soma* libation offered at the close of the day. Oh Aśvins, profuse libations are moving towards you, you are being praised and served by skilful singers. ... Oh Aśvins, the sweetest *soma* is mixed for you, drink it and come to our dwellings; your car—bestowing wealth all the time—is coming to the place of the offerer of the libation."[124]

More evidences from the *Ṛgveda* are not necessary. It is already obvious that Filliozat's claim that the Aśvins are originally not *soma*-drinkers is fictitious. When therefore the *Yajurveda* says that they are not normally (i. e. without being purified) entitled to *soma*, it does break away with the more ancient Vedic tradition.

Equally fictitious is the other point of Filliozat with which he tries to establish continuity of the Yajurvedic view with the earlier Vedic tradition. "Certainly, the promiscuity with human beings places them (the Aśvins) below the gods." This, as we have seen, is true of the Yajurvedic view. But this, it is essential for us to note, also means a violent departure from the mythological imagination of the early poets, in which the gods are not so much deified as to shun the company of the ordinary human beings. In the ancient Vedic thought, in other words, promiscuity with the human beings—far from being a mark of the degradation of the gods—is in fact supposed to be one of the characteristic traits of the nobler gods. In fact, in the dim antiquity of Ṛgvedic poetry, the very difference between man and god is yet to take a clearly defined form. We shall mention here just a few examples.

Indra is invoked simply as man : "I invoke Indra, the man (*naram*); who fulfils the desires of many from his ancient dwe-

124. *Ib.* iii. 58. 6-9.

llings, in the same way in which my ancestors did in the past."[125] Agni is said to be *nṛvatsakhā sabhāvān*—a friend of the most human type and a member of the tribal assembly.[126] Indra and Agni knew the ancient sages Kaṇva, Atri, Manu, "who were skilled and who had abode among the gods."[127] The ancient sages sat in joyful company with the gods and with true spells generated Uṣas.[128] Indra is praised as the chief among men (*nṛtamaḥ*) and one who shares out wealth along with other human beings (*nṛbhiḥ śākaiḥ*).[129] Agni is addressed as the chief human being among the human beings (*nṛṇāṃ nṛtamaḥ*),[130] or simply the chief among men (*nṛṇāṃ nṛpate*),[131] the best of men (*nṛtamaḥ*).[132] He is invoked to produce—like human beings (*nṛvat*)—food in large quantity among human beings (*nṛṇāṃ*).[133] Like human beings, he gives wealth and cattle to us, to our sons and our grandsons.[134] Mitra and Varuṇa are invoked to come and join *soma* drinking in the company of human beings.[135] "May Indra and Viṣṇu, like human beings, give us house."[136] Indra is praised as the best man among human beings (*nṛṇāṃ nṛtamam*).[137] Accompanied by other human beings he wins battles[138] and in their company he eats good food.[139] He is the bravest among human beings (*nṛṇāṃ vīratama*).[140] As foremost among men (*nṛṇāṃ nṛtama*), he destroys enemies in battle-fields.[141] "We shall prepare *soma* for Indra, who is the leader of all works beneficial for human beings and who is the best man among men (*nare naryāya nṛtamāya nṛṇāṃ*).[142] As the chief of men, Indra rends asunder the clouds and causes showers.[143] As the chief of human beings again he has dwellings similar to those of other human beings (*mānuṣānāṃ saṃ okāḥ nṛtamaḥ*).[144]

And so on. Hundreds of examples like these may without

125. *Ib.* i.30.9. 126. *Ib.* iv.2.5. 127. *Ib.* i.139.9.
128. *Ib.* vii.76.4. 129. *Ib.* iv.17.11. 130. *Ib.* i.77.4.
131. *Ib.* ii.1.1. 132. *Ib.* v.4.6 ; iii.1.12 ; iv.5.2. 133. *Ib.* v.18.5.
134. *Ib.* vi.1.12. 135. *Ib.* i.137.3. 136. *Ib.* iv.55.4.
137. *Ib.* iii.51.4 c.f. iv.16.4 ; vii.19.10. 138. *Ib.* i.178.3.
139. *Ib.* i.178.4. 140. *Ib.* iii.52.8 141. *Ib.* iv.33.3.
142. *Ib.* iv.25.4. 143. *Ib.* iv.22.2. 144. *Ib.* vi. 18.7.

difficulty be cited from the *Ṛgveda.*[145] In the early Vedic mythology, promiscuity with human beings is yet to become a ground for placing some god below the others. In spite of Filliozat, therefore, there is no way to ignore the fact that this becomes a ground for degrading the gods only from the days of *Yajurveda.* If some of the other mighty gods of the *Ṛgveda* are spared such degradation in the priestly view, the ancient Aśvins do not escape it. They are physicians after all, and as physicians they remain necessarily committed to the norm of "indiscriminate, unaristocratic mingling with men." From the standpoint of hierarchical aspirations it is obligatory for the Yajurvedic priests to censure them. It is because of this—and not because of the imaginary argument of Filliozat —that all the versions in which the Yajurvedic tradition reaches us are agreed on the degradation of the Aśvins.

But, argues Filliozat, the passage of the *Taittirīya-saṃhitā* which makes all this abundantly clear, is to be interpreted to yield an altogether different meaning. It is to be understood simply as the expression of some intra-priestly sectarianism —the priests of the Taittirīya school censuring the rival school of the Caraka-adhvaryus. Such a thesis, as is only to be expected, is built up on questionable Vedic interpretation aided by fiction.

First, the assumption that the school of Taittirīya priests was basically opposed to that of the Carakas or Caraka-adhvaryus cannot be as smooth as Filliozat wants us to accept. There is a tradition recorded in the *Pratijñā-sūtra* according to which the name Caraka in the priestly sense is applicable to all the schools of Black Yajurveda—a tradition to which Weber wants fully to subscribe.[146] If there is anything in this tradition, the Caraka-adhvaryus include also the Taittirīyas, who, Filliozat says, "have fired a passing shot at the rival school of the Carakas." In any case, modern Vedic scholarship is yet to be sure about the real identification of the Caraka priests or Caraka-adhvaryus.[147] This much alone seems to be unques-

145. Chattopadhyaya L 534 ff.
146. Eggeling in SBE xii. intro. p. xxvi note ; Keith VBYS intro. p. xc.
147. Keith VBYS intro. p. xc.

tionable that the Vājasaneya school of White Yajurveda—i.e. the school whose theological manual *par excellence* is the *Śatapatha Brāhmaṇa*—often strongly differs from the Caraka priests or Caraka-adhvaryus. But this difference has absolutely nothing to do with the question of medical practice or with that of the status of the Aśvins. As is evident from the *Śatapatha Brāhmaṇa*, the Vājasaneya and Caraka priests differ from each other in matters of ritual trivialities. Here are some examples of the questions on which the two schools of priests very sharply differ. Is clotted ghee or omentum to be first poured on the ritual fire ?[148] What exactly is the incantation to be chanted at the time of performing a particular ritual act ?[149] What precisely should be the mode of dividing a libation ?[150] Which animal is to be slaughtered for a deity ?[151] What should be the way of laying bricks for building the sacrificial alter ?[152] And so on. Though the priests want to make these questions look momentous, these cannot have a great deal of significance for us today. Further, what is immediately relevant for our present discussion is that nowhere in the course of explaining such differences is there any remote hint of medical practice. It is therefore only on the strength of the association of the medical compilation with the word *caraka* that Filliozat creates confusion about the passage of the *Taittirīya-saṃhitā*. His argument boils down to this : Since in this passage there is a disparaging mention of medical practice and since the medical tradition is associated with the word *caraka*, we are supposed to see in this passage a disparaging reference also to the Caraka-adhvaryus. This is not the way of interpreting a Vedic passage.

First, there is no reference whatsoever to the Caraka-adhvaryus in the Taittirīya passage under consideration. What we have in it is only the expression *manuṣya-carau*—"the two, wandering among men"—not connected at all with any rival priestly school but simply describing the Aśvins as healers. It is impermissible to propose that *manuṣya-carau* is to be

148. *Śat. Br.* iii.8.2.24-5. 149. *Ib.* ivl .2.19 f. 150. *Ib.* iv.2.3.15
151 *Ib.* vi.2.2.1 f 152, *Ib.* viii.i.3.7.

interpreted as referring either to the Caraka-adhvaryus or to the medical compilation called the *Caraka-saṃhitā*. The *Ṛgveda*, for example, frequently uses the word *cara*,[153] and so is the famous passage of the *Aitareya Brāhmaṇa* in which Śunaḥśepa is advised : *caraiveti caraiveti.* "Do thou wander. Do thou wander."[154] If the mere descriptive eqithet of the Aśvins, viz. "the two wandering among men", justifies seeing the Caraka-adhvaryus as well as Caraka-physicians in the Taittirīya passage under consideration, what prevents one to see the same also in the *Ṛgveda* and more specially in this famous passage of the *Aitareya Brāhmaṇa* ?

Secondly, nowhere in this book Filliozat has given any evidence indicating any connection—direct or remote—between the Caraka-adhvaryus and the physicians. The reason for this is quite simple. There is no evidence like that. The fact on the contrary is that the *Śatapatha Brāhmaṇa*, which among the Vedic texts is the best source of our information about the Caraka-adhvaryus,[155] nowhere suggests any interest taken in medical matters by these Yajurvedic priests. What then is the worth of Filliozat's thesis that the passage of the *Taittirīya-saṃhitā*, while having the primary purpose of censuring the Caraka-adhvaryus, chooses also to censure the doctors ? The plain meaning of the text, on the contrary, is abundantly clear. The purpose of the passage is only to censure the doctors and it has nothing to do with the Caraka-adhvaryus. However, since the Aśvins have the greatest medical reputation in the Vedic tradition, the passage has to censure also the Aśvins. Moreover, as this adverse view of the doctors is the outcome of the priestly ideology as such, all the schools of Yajurvedic priests are fully agreed on it, notwithstanding some sectarian rivalry among themselves. The *Kāṭhaka-saṃhitā* and *Maitrāyaṇī-saṃhitā* of the Black Yajurveda—which, according to Filliozat embody the tradition of the Caraka-adhvaryus—thus tell us the same legend about the same impurity of the Aśvins. Where the *Taittirīya-saṃhitā*

153. *Ṛv.* i.10.3 ; i.91.19 ; i.114.3 ; i.187.3 ; vii.31.10 ; vii.46.2 etc. etc.
154. *Ait. Br.* vii.14. 155. SBE xxvi. 197 ff ; 262 ff ; 297 ff ; 406 n ; xli. 171 ; 175 ; xliii. 15 ; 129 ; 131 ; xliv. 416.

and *Śatapatha Brāhmaṇa* differ from these other texts is the clarification of the real cause of this impurity, namely the medical career of these Vedic gods. There is surely no ground to imagine that the impurity of the Aśvins assumed in the other texts of Black Yajurveda is due to some other unexplained ground, specially because medical career is an absolutely inseparable feature of the Aśvins in Vedic mythology.

Thirdly, that the grand medical compilation acquires the name *Caraka-saṃhitā* indicates no doubt that sometime in ancient Indian history, the word *caraka* becomes specially associated with Indian medicine, or, perhaps more strictly, with the particular school of Indian medicine represented by this compilation. But when and how the word acquires this association is not known to us with any reasonable assurance and the assumption that already in the age of the *Yajurveda* Caraka means the Doctor is unfounded. More absurd is the claim that the simple epithet *manuṣya-carau*—'the two roving among men'—describing the Aśvins is reminiscent both of the Caraka school of priests and the Caraka school of doctors, because it contains the word *carau*. Even the *Bṛhadāraṇyaka Upaniṣad*, appended to the *Śatapatha Brāhmaṇa*, does not insist on necessarily seeing any sect in the use of the word *caraka*. In this text, a priest-philosopher says, *madreṣu carakāḥ paryavrajāma:* "while we were travelling around as wanderers anong the Madras."[156] The evidence of the Caraka-adhvaryus specially of the *Śatapatha Brāhmaṇa* indicates no doubt that already in the ancient period Caraka tends to become a sect-name of some Yajurvedic priests. But there must have been many wandering sects in ancient India of which the Caraka-adhvaryus were only one. The Jaina canonical work *Sūtrakṛtāṅga* refers to the theoretical position of one of the ancient Caraka schools.[157] The Buddhist work *Saddharma-puṇḍarīka* also speaks of the Carakas along with the Parivrājakas. Ājīvakas, Nirgranthas, Lokāyata-mantradhārakas and Lokāyatikas.[158] Other references to some ancient wandering sects

156. *Bṛ. Up.* iii.3.1. 157. SBE xlv. 237 & note,
158. SBE xxi. 263.

mentioned as Carakas are to be found in Rhys Davids' *Indian Sects or Schools in the Time of the Buddha*[159] and C. Bendall's observations on it.[160] But all these are references to religious mendicants, not to be confused either with the Caraka-adhvaryus or Caraka-physicians. Besides, there may be some ground to think that the association of the physicians with the word Caraka becomes firmly fixed sometime after the Buddha. As we shall presently see, the system of rationalist medicine of the *Caraka-saṃhitā* seems to be known to the *Vinaya-piṭaka*, which, however, is peculiarly silent about the word. Whatever may be the historical significance of this, Filliozat's attempt to discover in the simple epithet *manuṣya-carau* a reference to both the Caraka-adhvaryus and Caraka-physicians is not acceptable.

We felt obliged to examine Filliozat's interpretation of the Yajurvedic evidences at some length in order only to show how he wants virtually to remove from ancient Indian history by far the most serious clue to the damnation of the doctors by the law-givers. As is only to be expected, in his account of the history of Indian medicine the prolonged condemnation of the physicians by the law-givers deserves no more than a cursory mention in an obscure foot-note. The foot-note reads : "The notion of the impurity of doctors has remained a classic thing, c.f. Manu iii. 180, iv.212, although the prohibition ordained by the *Taittirīya-saṃhitā* to the Brahmin against his practising medicine, has not had the force of law."[161] This, again, is is a strange statement. The "prohibition ordained by the *Taittirīya-saṃhitā*" has actually the force of a super-law. It provides the law-givers with direct scriptural sanction for decreeing that the *dvija*-s—specially Brahmins—must not go in for medicine. Its practice must remain restricted to those that are base-born.

12. SCIENCE REPLACED BY MYTHOLOGICAL METAPHYSICS

Thus, his imposing scholarship notwithstanding, the main drift

159. JRAS 1898. 160. JRAS 1901. 161. Filliozat 20n.

of Filliozat's argument has the tendency to conceal the fact that with the growth of the hierarchical aspirations in the Vedic tradition there takes shape an ideology that proves inimical to medicine or ancient science in its most promising form. But why is this concealment ? Filliozat assumes that the development of the classical doctrine of Indian medicine maintains smooth continuity with the ancient Vedic tradition, or more properly with the hoary Indo-Aryan tradition. This assumption eventually enables him to see very close parallel between medical ideas of ancient India and ancient Greece. The most devastating result of the preoccupation with such a thesis seems to be some kind of cultivated indifference to the real intellectual achievements of the ancient Indian doctors and the replacement of these by a primitive metaphysics incompletely emancipated from mythology.

With a perfunctory account of what he chooses to consider the "essential Doctrines of the Āyurvedic texts", for which about six pages of the book are considered enough by him[162] Filliozat passes on to discuss "the pre-Aryan and Indo-Aryan data on medicine" and "the data of the Vedic *saṃhitā*-s on pathology, anatomy and physiology" —discussions covering over one hundred and fifty pages [163] of the book. Throughout these discussions he wants to focus the attention on a proto-metaphysics — slowly emerging from mythology — according to which Wind or Vāyu is the ultimate reality or perhaps the great deity controlling everything. With sophisticated Indology intended to establish the central importance of such a view in early Vedic speculations, Filliozat passes on to prove that this view forms also the essence of the classical doctrine of Indian medicine, which has moreover a very close parallel in the medical view of ancient Greece. The passages extensively quoted by us from the *Caraka-saṃhitā* and *Suśruta-saṃhitā* make such a view *prima facie* absurd. Filliozat has therefore to ignore all these and search for some other textual evidence from the medical compilations to substantiate his own thesis. The evidence he collects from the *Caraka-saṃhitā* in defence of this is unfor-

162. *Ib.* 25-31. 163. *Ib.* 32-185.

tunately puerile. Aided by an equally puerile evidence from the extant Hippocratic corpus, he proceeds to show the close parallel between "Āyurvedic theory of Wind and Greek pneumatism."[164]

The evidence of the *Caraka-saṃhitā* first. In a colloquium described in it is discussed the question of *vāyu*, which, as we have already seen, is considered in Āyurveda as one of the three important morbid matters causing various diseases. The first four participants in the colloquium—Kuśa Saṅkṛtyāyana, Kumāraśirā Bharadvāja, the Central Asian physician Kāṅkāyana and Badiśa Dhāmārgava—discuss the question, remaining on the whole within the general framework of Indian medicine. But another participant, *rājarṣi* Vāryovida or 'Vāryovida the royal sage', finds all these inadequate. He wants to reiterate the deified view of Air as a cosmic principle, with which we are already familiar in the metaphysical speculations of the Upaniṣads.[165] Therefore, after duly propitiating Vāyu or Wind (*vāyave namaskṛtya*), he delivers a longish discourse on it. It would be tedius to quote his entire speech. We give here some extracts from it :

"The Wind or Vāyu is the upholder of both structure and function in the body. It is the very soul of the five forms of wind in the body, namely *prāṇa*, *udāna*, *samāna*, *vyāna*, and *apāna*. It is the impeller of upward and downward movements, the controller and conductor of the mind ; the inspirer of all the senses, the conveyer of all sense-stimuli, the marshaller of the body-elements...... Wind is the sustaining principle of all life. All these are functions of the peaceful condition of Wind in the body.

"When, however, Wind becomes wrathful within the body, it afflicts the organism with diverse kinds or disorders, tending to impair its strength, complexion, well-being and life...

164. *Ib.* 196-228. To the evidence of the *Caraka-saṃhitā*, he also adds passages from the *Suśruta-saṃhitā* and *Bhela-saṃhitā*. These being equally irrelevant for the theoretical plank of Āyurveda, we propose to concentrate here only on the one from *Caraka-saṃhitā*.

165. *Bṛ. Up.* i.5.22-3 ; iii.7.2 ; *Ch. Up.* ii.24.9 ; iii.16.2 ; iv.3.1ff ; *Taitt. Up.* i.5 3 ; i.7 ; *Mait. Up.* vi.33 ; *Kauś. Up.* ii & iii etc.

"Of the Wind which is at large in the universe and is in its peaceful condition, the following are the works—setting the fire ablaze; governing the courses of the sun, moon, constellations and planets...

"Of the Wind moving in the universe in a wrathful condition, the following are the works—the grinding down of the peaks of mountains, the uprooting of the trees, the churning up of the seas, the upsurging of the lakes, the reversing of the courses of the rivers, the quaking of the earth...

"He (Wind) is God, the Creator, the Everlasting One, the Maker and Unmaker of all creatures, the Dispenser of happiness and misery, the Death-god (Yama), the Ruler of the underworld, the Controller, the Lord of creatures, the Undivided One, the Universal Artificer, the Omniform, the All-pervading, the Dispenser of everything, the Ultimate Constituent of all existence, the Omnipresent, the Immanent, the Outstripper of all the worlds. Wind verily alone is god (*vāyuḥ eva bhagavān itī*).[166]

That this is mythology or theology of some sort can hardly be overlooked, no more than the fact that its acceptance necessitates the replacement of medicine by prayer. If Wind is the only god determining everything both within and outside the body, the remedies for diseases—like protections against natural calamities—are to be expected only by appeasing this Wind-god with suitable prayers and propitiations. In fact, the royal sage Vāryovida wants us to make no mistake about it. He adds, "The right way of praying to the Wind-god (*vāyoḥ yathārthā stutiḥ*) in itself ensures freedom from diseases as well as the attainment of strength, complexion, body-lustre, physical growth, knowledge and the blessings of optimum longevity."[167]

It is not difficult to see that such a view, if accepted, makes all the theoretical achivements of ancient Indian medicine meaningless and the therapeutic technique based on these quite irrelevant. In short, it is anthropomorphic metaphysics, not medicine. Therefore, somewhat in the manner of the author of the *Ancient Medicine* of the Hippocratic corpus protesting

166. *Caraka-saṃhitā* i.12.8 Tr. based on G. 167. *Ib.* i.12.10.

against the intrusion of metaphysics into medicine,[168] Marīci —another participant of our medical colloquium—leaps to the attack :

"Even if all these were true, what is the point in saying or kuowing these in the medical discipline? Whatever is said here must be said strictly in accordance with the requirements of medicine" : *yadi api evam etat, kim arthasya asya vacane vijñāne vā sāmarthyam asti bhiṣag-vidyāyām ? bhiṣag-vidyām adhikṛtya iyaṃ kathā pravṛttā iti.*[169]

This indignant protest attributed to Marīci in the medical colloquium—his strong resentment against the intrusion of anything without definite relevance for medicine into the medical discussion—is extremely significant. We shall letter see how it fully agrees with the criterion preserved in the *Caraka-saṃhitā* for differentiating between what is extrinsic and what is intrinsic to medicine in the medical compilation.

It is our misfortune, however, that an Indologist of Filliozat's stature prefers to overlook all this. Carried by an illusory assurance of the development of the classical doctrines of Indian medicine from Vedic ideas, he goes to the absurd extent of seeing in this medically irrelevant discourse of Vāryovida the real theoretical plank of Āyurveda. This is specially sad because even the *Caraka-saṃhitā*, in the form in which it reaches us, does not apparently agree to attribute to the royal sage Vāryovida either a high medical authority or even much of self-consistent thinking. His name does not occur in the long list of the medical authorities, in whose great assembly the medical compilation first takes shape.[170] The text would not have perhaps ignored his name in this list if he had a great deal of reputation in the ancient medical circles. Secondly, that he is some kind of an amateur dabbling in medical matters seems to be suggested by the *Caraka-saṃhitā* in so far as certain random theories are attributed to him. Though in the present colloquium he is made to defend the view that Air is the greatest of gods, in another colloquium of the *Caraka-saṃhitā*, the same

168. see supra p. 108 ff. 169. *Caraka-saṃhitā* i.12.9.
170. *Ib.* i.1.9-14.

Vāryovida is represented as defending a different thesis altogether. Apparently forgetting his Wind-god, in this other colloquium he declares : "All creatures originate from *rasa*, so also all forms of diseases. But *rasa* is made of water. Hence all creatures as well as all diseases are to be viewed as originating from water."

rasajāni tu bhūtāni vyādhayaḥ ca pṛthagvidhāḥ/
āpaḥ hi rasavatyaḥ tāḥ smṛtāḥ nivṛtti-hetavaḥ//[171]

In a third colloquium the same royal sage Vāryovida comes out with a peculiar theory of the *rasa*-s : "The royal sage Vāryovida exclaimed : *rasa*-s are six in number, namely heavy, light, cold, hot, unctuous and dry."[172]

Needless to say that none of these three views expressed by him in three different contexts of the *Caraka-saṃhitā* is accepted by the medical compilation as forming part of the essential theoretical position of Āyurveda. Nor is there any chance to evolve some coherent interpretation of these three views. Vāryovida, it seems, cannot make up his mind about any specific theory. Still Filliozat wants us to believe that in the quaint anthropomorphic metaphysics of Wind or Vāyu expressed by him in the first colloquium we are supposed to see the real theoretical plank of Āyurveda. The main consideration leading him to such a thesis seems to be that the acceptance of this enables him to prove the continuity of the development of Vedic thought into the Āyurvedic doctrines, or, as he puts it, to prove "the Vedic soil to which go the basic roots of Āyurveda." [173] This is how he seeks "to determine the exact position of the Āyurveda in relation to the Veda."[174] What he in fact achieves, however, is only to show how some elements of Vedic mythological metaphysics somehow remain interpolated in the Āyurvedic text.

After thus hoping to establish that the ancient Vedic view of Wind or Air reasserts itself as the essence of Āyurvedic theory, Filliozat passes on to show the close similarity between the medical ideas of ancient India and ancient Greece. For this

171. *Ib.* i.25.13. 172. *Ib.* i.26.8. 173. Filliozat 188.
174. *Ib* 186.

purpose, he relies mainly on a brief tract called *On Breaths* surviving in the Hippocratic corpus. Though free from the anthropomorphism of Vāryovida's view of Wind, this text also proposes to consider wind or breath as the root-cause of all diseases and concludes with the following :

"So breaths are seen to be the most active agents during all diseases; all other things are but secondary and subordinate causes. This then as the cause of diseases I have now expounded. I promised to declare the cause of diseases, and I have set forth how wind is lord, not only in things as wholes, but also in the bodies of animals. I have led my discourse on to familiar maladies in which the hypothesis has shown itself correct. If indeed I were to speak of all maladies, my discourse, while being longer, would not be in the least more true or more convincing."[175]

Quoting the tract elaborately, Filliozat concludes : "The general concordance of the doctrine of this text with that of Indian pneumatism is evident. The similarities in detail of the pathogenic representations are equally so. But there are also differences ... It should, therefore, be recognised that there is a profound analogy between the doctrine of the manual *On Breaths* and the Indian pneumatism but not a close correlation. It seems excluded that there was textual borrowing. On the Indian side the doctrine propounded is too ancient, because of its Vedic attachments and because of its Indo-Iranian prehistory, to have been born under Greek influence: at the most it could have been influenced in certain details. On the Greek side, only a free imitation of an Indian model could be admitted as there is no literal concordance."[176]

What is apparently bypassed by these profound discussions is only a simple point. How much of genuine scientific significance the tract *On Breaths* is supposed to have in the general structure of Greek medical thought ? We quote W.H.S. Jones, who has already answered the question. Introducing his translation of the tract, Jones observes :

"This work, like *The Art*, is a sophistic essay, probably writ-

175. Jones ii.253. 176. Filliozat. 225-6.

ten to be delivered to an audience...Diogenes of Apollonia had revived the doctrine that air is the primal element from which all things are derived. The writer of *On Breaths* would prove that air, powerful in nature generally, is also the prime factor in causing diseases. He is a rhetorical sophist who ... adopted the fundamental tenet of a rather belated Ionian monist.

"The author shows no genuine interest in medicine, nor do his contentions manifest any serious study of physiology or pathology. Any impartial reader will detect in chapter xiv (the discussion of epilepsy) just the illogical but confident dogmatism that is associated with half-educated, would-be scientists. The account of dropsy ... is not only illogical but ludicrously absurd.

"The theme of the writer takes us back to the speculations of Anaximenes, and even earlier still, for in the very infancy of thought man must have noticed that air is an essential condition of life. For centuries the conviction that air, or some essential principle behind the manifestations of air as wind, breath and vapour, was primal and elemental, kept arising in one form or another."[177]

It is thus not surprising that some sophist, not primarily interested in medicine at all, should prefer to write such a pseudo-medical tract. What surprises Jones, however, is that such a work should have a place in the collection of medical writings of ancient Greece. As a possible explanation of this anomaly, Jones proposes the following hypothesis : "It is at first surprising that a book of the character of *On Breaths* should find its way into the Hippocratic collection. It is probable, however, that this collection represents, not works written by the Coan school, but works preserved in the library of the medical school of Cos. Knowing the vanity of the Sophists we ought not to be surprised that they sent 'presentation copies' of their works on medical subjects to the chief centres where medicine was studied. Perhaps in this way were preserved both *On Breaths* and *The Art*."[178]

There is thus profound similarity not only between the

177. Jones i.221-3. 178. *Ib.* ii. 224-5.

views expressed in *On Breaths* and in the discourse attributed to Vāryovida in the *Caraka-saṃhitā* ; there is moreover the similarity between Jones' assessment of the former and Marīci's assessment of the latter in the *Caraka-saṃhitā* colloquium. In both these assessments the views under consideration are irrelevent for medicine. When we add this to Filliozat's discussion, little is left in his thesis of the sources of the Āyurvedic doctrines in the Indo-Aryan tradition.

13. STRICTURE ON DIRECT KNOWLEDGE

We have discussed mainly two points about Filliozat's thesis. First, he misuses an imposing amount of scholarship to conceal the fact that with the growth of hierarchical aspirations in the Vedic tradition emerges also the counter-ideology inimical to medicine. Secondly, on the basis of this concealment, he proceeds to substitute the grand theoretical achievements of the ancient physicians by some metaphysics incompletely emancipated from mythology. The most serious consequlence of the second point is the virtual denial of any genuine tradition of science in ancient India. If we are supposed to see the crux of Āyurvedic theory in some kind of an anthropomorphic view of Wind, all the achievements of ancient Indian medicine—achievements that give us the feeling of being at the threshold of modern science as it were — are virtually overlooked or forgotten. Hence is the need of critical rejection of the view of the Vedic roots of Āyurvedic theory. This does not mean that we are to take a totally negative view of the relation between the Vedas and Āyurveda. We shall presently see to what in the Vedas, Āyurveda is really indebted. However, the rejection of the thesis of Vedic roots of Āyurveda does mean that beginning from the times of the priestly literature — the *Yajurveda* and *Brāhmaṇa*-s — medicine or positive science in in the broader sense is practically dead in the Vedic tradition proper. This explains why, in spite of all the legends of the Upaniṣadic kings patronising learning, the entire Upaniṣadic literature is silent about the cultivation of medicine or positive

science in any other form. We shall presently see how an Upaniṣadic thinker, with a pronounced scientific temper, has to go somewhere outside the stronghold of the Upaniṣadic culture in search of the kind of knowledge he cares for. The spirit of enquiring into the laws of nature ceases to have any official recognition in the general theoretical climate created by the counter-ideology of the later Vedic period — the period of the *Yajurveda, Brāhmaṇa* texts and Upaniṣads, shortly followed by the *Dharmasūtra*-s.

We shall briefly note here a prominent feature of the counter-ideology which cannot but make it hostile to science. It is the stricture on direct knowledge of nature.

The ancient doctors — the scientists *par excellence* of the age — aspire after the knowledge of nature as a whole, because, as we have seen, they think that there can be nothing in nature irrelevant for medicine.[179] Considering their technological and other equipments, we can easily see that this is being too ambitious for their period. They cannot succeed in developing an insight into nature beyond a certain early or rudimentary stage. This, however, is a different point. The pioneers of science are to be judged not by the actual success of implementing their programme but by the success of their formulation of the programme. The ancient Indian doctors make an admirable beginning in this formulation. As scientists they feel that they have to strive after "the simple conception of nature just as it is, without alien addition", because on this alone can be based "the system of behaviour by which man acquires mastery of his environment."[180]

With the emergence of the hierarchical aspirations, it is all different. What is cared for is a system of behaviour by which man acquires mastery over men and, for this purpose, also an ideology interested in alien addition to the simple conception of nature just as it is.

We have already seen how admirably the *Aitareya Brāhmaṇa* formulates this new norm of man acquiring mastery over men. From the standpoint of the "lordly power" or Kṣatriya, the

179. see *supra* p. 63ff. 180. see *supra* p. 4.

farmer-trader or Vaiśya is "a tributory to another, to be eaten by another, to be oppressed at will", while the direct producer or Śūdra "is the servant of another, to be removed at will, to be slain at will."[181]

The "lordly power" has no doubt its own weapons with which to enforce this norm. In the language of the *Aitareya Brāhmaṇa*, these are "the horse-chariot, corslet, the bow and arrow."[182] But the lordly power evidently also feels the need of some ideology which can assist its self-justification. In other words, the kings and nobles realise — perhaps not without some surprise — that they also need men who can construct theories, that is to say thinkers capable of manufacturing speculative views justifying their powers and privileges. Whatever may be the nature of such views, one point is absolutely essential for these. It is the claim that things are not what they appear to be. Thinkers catering to the political needs of the ruling powers must begin with a distorted description of reality. To administer a programme required by the privileged class, they have suitably to distort the information on which the programme is based. In short, since the ruling power cannot afford to have the truth generally known, they need ideologists who know first of all the technique of twisting, concealing and mystifying the actual nature of the world along with everything that goes on in it. Only after achieving this can they add to the requirements of the ruling powers the halo of supernatural sanction.

In ancient India the priests move forward with the claim that they know the technique of obscuring the machinations of the nobles and kings by 'creating a nacreous haze of superstition' with bombastic phrase-mongering. The voluminous *Brāhmaṇa* texts take special pride in proclaiming that the purposive distortion of reality is one of their noblest missions, inasmuch as this distortion of truth delights the gods. Deliberate deceit is thus eulogised as one of the outstanding achievements of the "holy power". The usual way of eulogising this deceit is to declare that the gods themselves are fond of making things

181. see *supra* p. 229. 182. see *supra* p. 228.

purposively obscure, mysterious, unintelligible. An oft-repeated formula of the *Brāhmaṇa* texts is : *parokṣapriyāḥ iva hi devāḥ.* We shall quote here only three passages from the *Brāhmaṇa*-s to see how the priests try to illustrate this in their characteristically disgusting technique of inventing fanciful etymologies.

The *Aitareya Brāhmaṇa* tells us that on the place whence by offering sacrifice the gods went to the world of heaven, they tilted over the goblets, and thus came into being the Nyagrodha tree (*ficus indica*), the roots of which grow downwards. To this the text adds : "It is called by the name *nyagrodha*, whose meaning is hidden (to men), and not by the more intelligible name *nyagroha*, for the gods like to conceal the very names of objects from men, and call them by names unintelligible to them."[183]

The same fondness of the gods for obscurity and mystification is retold by the same text in connection with the fanciful etymology of the word *mānuṣa* or man. Prajāpati or the creator, wanting to commit incest with his daughter, "having become a stag approached her in the form of a deer." The gods, outraged by it, created a deity to pierce Prajāpati with an arrow. "Having aimed at him he pierced him; being pierced he flew upwards: him they call 'the deer' ... The female deer is Rohiṇī ... The seed of Prajāpati outpoured ran; it became a pond. The gods said, 'let not this seed of Prajāpati be spoiled.' It became 'not to be spoilt'; that is why 'not to be spoilt' (*māduṣa*) has its name ; connected with man it is called 'not to be spoilt'; that being 'not to be spoilt' they call mystically 'connected with man (*mānuṣa*)', for the gods are lovers of mystery as it were."[184]

The *Śatapatha Brāhmaṇa* also tells us of a fanciful etymology of Indra satisfying the gods' love for mystification : "This same vital air in the midst doubtless is Indra. He, by his power (*indriya*), kindled those other vital airs from the midst ; and inasmuch as he kindled (*indh*), he is the kindler (*indha*) ; the kindler, indeed, him they call Indra mysticaily, for the gods love the mystic."[185]

183. *Ait. Br.* vii. 30. Tr. Haug. 184. *Ait. Br.* iii. 33. Tr. Keith.
185. *Śat. Br.* vi.1.1 2. Tr. Eggeling.

In the passages just quoted, three renowned translators of the *Brāhmaṇa* texts render the priestly dictum in three different ways. But the dictum is the same. The gods have an aversion for direct knowledge, because they are fond of mysticism or the distortion of objective truth. The way in which the priestly texts express this—the illustrations used for the purpose—may appear to us to be more or less nonsensical. But not the dictum itself, the main point of which is to evolve divine sanction for the damnation of direct evidence. We shall presently see how the great Upaniṣadic philosopher Yājñavalkya wants to be clear about this implication of the priestly dictum. For the present our point is that if the gods are fond of concealing the actual nature of things, the mortals can search for the knowledge of nature as it actually is only by going against the gods. Anything foreshadowing positive science is thus a sin or a sacrilege. The counter-ideology wants to create an intellectual atmosphere in which a discipline aspiring even remotely to be science in our sense has got to be censured, condemned, despised as inherently impure.

Understandably, medicine becomes the first casualty of all this, because of all the disciplines of ancient India, medicine is inescapably committed to aspire after the objective knowledge of nature and man. It is therefore strange to see how some of the modern scholars like to imagine that Indian priestcraft contributes significantly to the development of Indian medicine. Mehta, the general editor of the magnificent edition of the *Caraka-saṃhitā*, observes : "From the actual record of medical wisdom in the Vedas, though in its most rudimentary forms, we have a Vedic period of medicine. Next, as the consequence of the elaborate ritual of the sacrifice and the discussions, assemblies and discourses associated with it during its long performance, there emerged a systematic and rational method of the exposition of philosophy and of medicine. This is the great *Brāhmaṇa* period of philosophy and also the Saṃhitā period or the period of systematic codification of medicine. This may justly be called the scientific era of medicine in India. Āyurveda then attained its age of maturity emerging from its non-age of Vedic medley of charms and

simple drugs, of incantation and magic ritual, into the maturity of a rationally expounded science of health and disease and a systematic practice of remedies, related to dose, time and constitution."[186] Any detailed comment on this fairy tale is perhaps unnecessary, because the earliest authors of *Dharmasūtra*-s—maintaining perfect continuity with the *Brāhmaṇa* texts—have already clearly explained the actual attitude to medicine taking shape in the priestly circles. Medicine is viewed as a pollution, and necessarily so. The priests, making their living on deliberate obscurantism, cannot but hate a discipline aspiring after the rational understanding of nature and man. Whoever else may be responsible for the transition from magico-religious therapeutics to rational therapeutics, the priests can have only a destructive role in the process.

Macdonell and Keith want to make the priestly contribution to the development of Indian medicine look a little more plausible. The priests may or may not have any great contribution to the development of medicine as such, but their ritual technique does contribute to at least one important component of medical science, namely anatomy. Ancient Indian anatomy, as Keith and Macdonell observe, owes itself "no doubt to the practice of dissecting animals at the sacrifice."[187] "Anatomy had begun to be studied," adds Keith, "probably as a result of the constant slaughter of victims by the priests for the animal offering".[188]

That a certain interest in the organs of animal bodies is taken by the *Brāhmaṇa* texts and that moreover this is connected with their ritual killing of animals need not be doubted. In other words, the sacrificial slaughter of animals must have made available to the priests some amount of empirical data, which, rightly processed, could have developed into proto-anatomy of ancient period. But the fact is that this did not and could not develop in this direction. The *Brāhmaṇa* texts enable us to see on the contrary what a disaster it means for the development of objective knowledge when an amount of empirical data—rudi-

186. Mehta i.15. 187. Macdonell & Keith VI ii. 105.
188. Keith HSL 505.

mentary or otherwise—is left as the custody of those who are interested only in the monstrous mystification of it, so that it becomes part of their awe-inspiring ritual technique. As a matter of fact, the very passage of the *Śatapatha Brāhmaṇa* which Keith[189] and others[190] cite as evidence of the knowledge of skeletal anatomy contained in the text, shows the fate of the rudimentary empirical knowledge under the custody of the priests. We have to quote the passage here, howsoever tedious that may be.

"But indeed that fire-altar also is the body,—the bones are its enclosing stones, and there are three hundred and sixty of these, because there are three hundred and sixty bones in man; the marrow parts are the Yajuṣmatī bricks, for there are three hundred and sixty of these, and three hundred and sixty parts of marrow in man; and these thirty-six bricks which are over, are the thirteenth month, the trunk, the vital air (of the altar), —in his body there are thirty parts, in his feet two, in his vital airs two, and in his head two,—as to there being two of these, it is because the head consists of two skull-bones. And that whereby these joints are held together in the Sūdadohas; and those three whereby this body is covered—to wit, hair, skin and flesh—are the earth fillings; what he drinks is the oblations, and what he eats the fire-logs; and what is called the 'body', that is the space-filling (brick) :—thus this comes to make up the whole Agni, and the whole Agni comes to be the space-filler; and, verily whoever knows this, thus comes to be the whole (Agni) who is the space-filler."[191]

This, to say the least, is sheer rigmarole from which is drained out even any semblance of interest in anatomy proper. But it also illustrates the necessary fate of empirical knowledge left at the custody of those whose declared policy is to censure direct evidence. Anatomy receiving any real impetus from the priests is imagination, not history. Compared to them, the butchers and hunters—though denied of cultural opportunities in caste-society—are much better placed for contributing to proto-

189. *Ib.* 505n. 190. see Dasgupta ii. 279.
191. *Śat. Br.* x.5.4.12.

anatomy, because they are under no professional obligation to mystify the information gained from their technique.

But the fact is that Indian anatomy is indebted neither to the priests nor to the butchers. The physicians and surgeons, aware of the importance of trained dissection of prepared corpse, develop it. We have already seen,[192] what leads them to attach great importance to this technique of dissection. The *Suśruta-saṃhitā* claims, anatomical knowledge acquires certainty only when it is based on direct and personal observation of the viscera etc. In the language of the *Brāhmaṇa* texts, this may as well be translated to mean that anatomy becomes possible only by flouting the desire of the gods for the purposive distortion or mystification of direct evidence.

14. UPANIṢADS : METAPHYSICS MILITATING AGAINST SCIENCE

In the traditional view, the Upaniṣads are appended to the *Brāhmaṇa*-s and form the ending portions of the Veda. Hence these are also called Vedānta or Veda-end. Our next question, therefore, is : What happens to medicine—to positive science in its most promising ancient form—in the Upaniṣads ?

The answer to this is quite simple. Medicine ceases to have any significance whatsoever in the general theoretical temper dominating these texts. In the principal Upaniṣads, even the words 'medicine' and 'physician' are hardly allowed. In the whole of the Upaniṣadic literature, we read the word *bheṣajakṛtaḥ* or healing only once. The *Chāndogya Upaniṣad*, discussing the faulty way of performing a sacrifice which is supposed to cause injury to it, says : "Verily, that sacrifice is healed in which there is a Brahmā priest who knows this."[193] The word *bhiṣak* or physician occurs only once in the *Maitrī Upaniṣad*,[194] and this again in a metaphorical sense, i.e. to refer to something other than the doctor. Outside these two

192. see *supra* p. 94ff. 193. *Ch. Up.* iv.17.8 194. *Mait. Up.* vi.13

passages, there is not even the mention of the words *bheṣaja* and *bhiṣak* in the principal Upaniṣads.

In the Upaniṣadic literature, thus, a blanket of total silence is drawn as it were on medical science. Why is it so? We shall try to answer the question here in so far as it illustrates how the counter-ideology militates against science in general, though in a form much more sophisticated than we see it in the *Yajruveda* and *Brāhmaṇa* texts.[195]

To begin with, it needs to be noted that the Upaniṣadic thinkers are not free from the spell of the most calamitous demand of the counter-ideology. The *Aitareya Upaniṣad* quotes the priestly dictum censuring direct knowledge and, perhaps by way of adding emphasis or literary effect to it, repeats it: *parokṣa-priyāḥ iva hi devāḥ*; *parokṣa-priyāḥ iva hi devāḥ*—"the gods are fond of the obscure; the gods are fond of the obscure."

Yājñavalkya, undoubtedly the most renowned metaphysician of the Upaniṣads, also quotes the dictum. It seems, however, that a thinker of his stature feels that it is in need of some clarification. While reiterating it, therefore, he adds a brief explanatory expression to it. Thus, in the *Bṛhadāraṇyaka Upaniṣad*—while delivering a grand metaphysical discourse to Janaka, king of Videha—he declares: *parokṣa-prīyaḥ iva hi devāḥ*; *pratyakṣa-dviṣaḥ*—"the gods are fond of the obscure; they detest direct knowledge."[196]

The brief expression *pratyakṣa-dviṣaḥ*—conveying the gods' distaste for direct evidence—speaks volumes. The great metaphysician admirably clarifies the basic demand of the counter-ideology. What is more important for our discussion is that he fully endorses it. In the general theoretical climate created by this endorsement, the zeal for the objective knowledge of nature inspired by the conviction that it alone holds the prospect of improving human lot, is quite dead. This means, complete paralysis of science. The theoretical equipments of the Upaniṣadic thinkers have to explore other avenues for their expression

195. *Ait. Up.* iii.14. 196. *Bṛ. Up.* iv.2.2.

and fulfilment. This is about the greatest misfortune to ancient Indian thought. It not only breaks away from science but has moreover to succumb to a peculiar delusion of the omnipotence of thought as the only alternative to the scientific search for truth and reality.

The magnitude of this misfortune needs specially to be noted. In the Upaniṣadic India we come across our first philophers. Some of them are extraordinarily gifted thinkers, for whom is created the earliest scope for specialising in speculative activity. They raise questions of momentous importance and want earnestly to answer these. What is thus promised in general to Indian thought is of very great significance. It is the realisation and recognition of the power of human reason or the real creative possibilities of consciousness. Without the emancipation of consciousness from the almost total preoccupation with other problems—the problem for example of bare survival or of keeping the masses servile—there is no beginning of philosophy in the true sense. In the *Ṛgveda* we come across inspired poets or seers no doubt, but they are inspired on the whole by the vision of the fulfilment of elemental desires ensuring the survival of the community. Their consciousness, engrossed with the problem of man's struggle with nature, hardly enables them to philosophise. In the *Brāhmaṇa* texts we have indeed the glimpse of the emerging leisured class with objective scope for theoretical constructions. But their consciousness is engrossed with the problem of man's struggle with man—the problem of stablising the political power of kings and nobles, which they hope to do mainly with the technique of controlling men with fear. In the Upaniṣadic India—i. e. in the first stabilised states of the Indo-Gangetic plain of about the eighth or seventh century B.C.—the picture is substantially different. There is considerable progress of the control over nature, thanks mainly to the introduction of iron implements on some scale and the improved technique of agriculture and handicrafts, which are now added to cattle-raising. Human labour acquires the ability to produce much more than is required for its bare maintenance. At the same time, there is improvement of the technique of administration—specially tax collection—depending

on which the kings and nobles can extract and amass the surplus products from the direct producers with far more competence and confidence. As one of our earliest law-givers, while describing the main duty of the king, wants to validate this accomplished fact: "But to the collection of these taxes he shall always pay particular attention. He shall live on the surplus."[197]

Depending on this surplus to maintain themselves in a grand scale and assured moreover of the improved technique of administration, the kings and nobles of Upaniṣadic India have the serenity to delight in unruffled contemplation. They have all the leisure of life to patronise and participate in philosophy. The kings surrounded by their flatterers (*rājanya-bandhu*) are often described in the Upaniṣads as taking very keen interest in the problems of philosophy. Evidences like these[198] lead some of the modern scholars to connect the new theoretical temper of the age specially with the nobles of Upaniṣadic India. Put in Indian terminology, this is the theory of the Kṣatriya origin of the Upaniṣadic philosophy. Without ignoring what is true in it, we have to note that, depending on patronage of these kings and nobles, there also emerge some exceptionally gifted thinkers outside the circle of the Kṣatriyas. Such a philosopher, for example, is the great Yājñavalkya, who is a priest by profession but who thrives on fabulous gifts received from king Janaka for his spectacular philosophical discourses.[199]

In any case, Upaniṣadic India witnesses magnificent flourish of philosophical activity. What Indian thought gains from this is obvious. Our present point, however, is the special danger also created for it, notwithstanding its achievement. This danger consists in the special direction to which philosophical activity is on the whole enforced by the disastrous demands of the counter-ideology. As we have just seen, even the great Yājña-valkya feels the need of reiterating and explaining one of the main points of this counter-ideology: the gods are fond of obscurity and so they detest direct knowledge. It is not difficult

197. Gautama x.29-30 198. Keith RPVU 493
199. Chattopadhyaya WLWD 124ff.

to see why philosophy, once it rejects the ideal of directly knowing things, should easily tend to lose the spirit of getting enriched by the knowledge of nature. But the objective conditions in which the Upaniṣadic philosophers live do not give them the scope to realise how grave is this loss. The tendency to turn away from nature fully agrees with the material conditions that enable them to philosophise. These are conditions in which the manual workers or direct producers are shorn of all prestige and privilege. The tools and techniques by which nature is interrogated belong to them. When therefore they recede to the background, the growing stock of their experience and understanding ceases to have any vital significance for the kings, nobles and thinkers subsisting on royal gifts. The essential demand of the counter-ideology—its open distaste for direct knowledge—fully coheres with the socio-political conditions which it intends to safe-guard.

What then happens to philosophy when it wants to turn away from the pursuit of the direct knowledge of nature ? The philosopher's quest turns inwards or as the psychologist would prefer to put it, the philosophers are coerced to a peculiar process of introversion. Knowledge no longer aspires to be the knowledge of the object. It wants to be the knowledge of the subject itself—of the bare ego or of the pure self. In the *Chāndogya Upaniṣad,* the philosopher Sanatkumāra beautifully describes this philosophical norm : *ātmaratiḥ ātmakrīḍaḥ ātmamaithuna atmānandaḥ*—"the libido fixed on the ego, sporting with the ego, copulating with the ego, delighting in the ego."[200] This can perhaps be an apt description of extreme introversion even for the psychiatrist today.

Extreme introversion, we are told, brings into operation a delusion of grandeur. It is the delusion of the omnipotence of the bare ego. This ego—this self—wants to dictate terms to reality and even demands to be recognised as the only reality. As Sanatkumāra, describing the ecstasy of metaphysical illumination, declares : "I, indeed, am below. I am above. I am to the east. I am to the west. I am to the south. I am to the

200. *Ch. Up.* vii.25.2.

north. I, indeed, am the whole world ... The ego *(ātman)*, indeed, is below. The ego, indeed, is above. The ego is to the west. The ego is to the east. The ego is to the south. The ego is to the north. The ego, indeed, is this whole world."[201]

The immediate result of all this is the lofty contempt for nature or material world, which, in this metaphysics, has the destiny of being reduced to some kind of foolish phantom (*māyā*) fabricated by sheer ignorance. Cut off from the active intercourse with nature, the philosopher's consciousness runs the risk of imagining that it can rise to even more remote conditions where only thoughts remain and the things thought of fade out. This is the cult of pure reason, i.e. of reason only as a faculty of illusion. Consciousness, estranged from the active intercourse with nature, becomes a form of sick consciousness. It is no longer *consciousness of something* but *something like consciousness-in-itself*—just consciousness, sheer consciousness—not the consciousness of real men and women engaged in active communion with nature and getting progressively enriched by it. Consciousness is now viewed as a 'deified absolute'—too mysterious to be grasped by mundane thought and too awesome to be described by mundane language. The great Yājñavalkya declares, reality is just a mass of consciousness (*vijñānaghana*).[202] It can neither be grasped by the normal organs of knowledge nor discussed in normal language. The only way of referring to it is to say : "It is not this. It is not this."[203] Only by dreaming, and sinking further into the state of dreamless sleep (*suṣupti*), one can have some kind of awareness of it, though the awareness becomes clear only by the technique of the total withdrawal of interest from everything external and thereby attaining a state of trance (*turīya*) or some kind of cultivated catalepsy.

It is not the place for us to discuss the Upaniṣadic metaphysics in greater detail. What concerns us here is the science-policy necessarily following from it. This policy, as is only to be expected, is completely nagative. The typical expression of this is to be found in a legend of the *Chāndogya Upaniṣad*.[204]

201. *Ib.* vii.25.1-2 202. *Bṛ Up.* ii.4.12. 203. *Ib.* iii.9.26.
204. *Ch. Up.* vii.

Nārada approaches Sanatkumāra for metaphysical wisdom. He is asked to declare the list of disciplines in which he is already proficient. Nārada enumerates a long list, evidently covering the branches of knowledge cared for in Upaniṣadic India. But the first thing that Sanatkumāra tells him is that all these have nothing more than mere nominal value (*nāma*). Deussen, a great admirer of the Upaniṣadic metaphysics (which usually uses the word *brahman* for the ultimate reality), enthusiastically comments :

"Very soon, however, it came to be realised that this knowledge of *brahman* was essentially of a different nature from what we call 'knowledge' in ordinary life. For it would be possible, like Nārada in the *Chāndogya*, to be familiar with all conceivable branches of knowledge and empirical science, and yet to find oneself in a condition of ignorance (*avidyā*) as regards the *brahman*. This thought, originally purely negative, becomes in the course of time more and more positive in character. It was negetive in so far as no experimental knowledge led to a knowledge of *brahman*, and it was positive in so far as the consciousness was aroused that the knowledge of empirical reality was an actual hindrance to the knowledge of *brahman*."[205]

It is indeed amazing to note how much one's use of language is influenced by one's personal preoccupations. Anybody with the least care for positive science would certainly prefer to substitute the word "positive" above by "ultra-negetive" or "super-negative." From the standpoint of the world-denying metaphysics, the knowledge given by positive science in any form is not merely worthless but moreover something definitely obstructing the vision of truth. In Upaniṣadic India, this world-denying metaphysics acquires the status of the official world-view. What else do we expect in this intellectual climate but a total wreck of positive science ?

Incidentally, in the *Chāndogya Upaniṣad*, Nārada, while declaring the intellectual assets he already possesses, is completely silent about medicine. How can a respectable Brahmin like

205. Deussen 74-5.

him go to the extent of saying that he is already accomplished in a discipline pronounced impure in the *Yajurveda*? There is no doubt that of all the disciplines cultivated in ancient India medicine has the highest science-potential. But the total indifference to it does not matter for the great Upaniṣadic thinkers. Notwithstanding the greatness of their individual abilities, their philosophy is coerced by the counter-ideology to develop only in a special direction in which it is left with a sophisticated general crusade against science.

We want to add only one point to the present discussion. There are reasons for medicine becoming the special victim of the general offensive against science. The philosophy of the Upaniṣads or the Vedānta philosophy is also called *śārīraka*. The name tells its own story. The word is derived from *śarīra* or 'body' by adding to it the suffix *kan* implying derogation. In other words, it the philosophy of the pure soul which, much to the annoyance of the Upaniṣadic philosophers, is temporarily imprisoned as it were in the defiled body. The underlying idea is strongly reminiscent of Plato, who, in defence of basically the same world-denying outlook, goes to the extent of characterising the desire for death as the right philosophical temper. As he puts it : "as long as we are encumbered with the body, and our soul is contaminated with such an evil, we can never fully attain to what we desire ; and this, we say, is truth...... And then, as it seems, we shall obtain that which we desire, and which we profess ourselves to be lovers of, wisdom, when we are dead, as reason shows, but not while we are alive."[206] Such, then, is the *śārīraka* philosophy of ancient Greece. I have elsewhere compared this with the enviable description of a dying man given by Yājñavalkya in the *Bṛhadāraṇyaka Upaniṣad*—enviable because, while dying, the man is supposed to be progressively relieved from the fetters of the body.[207]

The world-denying metaphysics, both in ancient Greece and in ancient India, is naturally committed to the most intense contempt for the body, i. e. for precisely that for which the physicians care. This cannot but have its repercussion on the

206. *Phaedo* 66. Tr. Cary. 207. Chattopadhyaya WLWD 137.

attitude to medicine. It becomes a special ground for its neglect and even damnation. Thus, while the *śārīraka* philosophers of the Upaniṣads do not even speak of the doctors, the *śārīraka* philosopher of ancient Greece shows a very unfavourable attitude to them. "Plato's chief criticism is that medicine prolongs useless lives ; but we can see, wherever he refers to medical men, that he held them and their craft in no great respect."[208] In the great prestige eventually attained by Platonic philosophy, W. H. S. Jones is inclined to see the final doom of medicine—and therefore of science in general—in ancient Greece. His observation needs to be quoted here at some length. Introducing the defence of medicine against the invasion of it by empty metaphysical postulates by the author of the *Ancient Medicine* in the Hippocratic corpus, Jones says :

"Plato would have nothing to do with the appeals to sense-experience. According to him, if a postulate is not accepted, it must be abandoned, and a more general postulate postulated, until one is reached to which the opponent agrees......

"In place of postulate the author of *Ancient Medicine* relies, as a modern scientific thinker relies, on careful observation and critical examination of phenomena, hoping thereby to reach, not the complete perfect knowledge Plato hoped to attain through his Ideas, but an approximation to truth.

"So the two methods, that of Greek philosophy and that of modern science, stand face to face...... Medicine, almost the only branch of Greek science scientifically studied, was worsted in the fight, and medical science gradually degenerated from rational treatment to wild speculation and even quackery and superstition. The transcendant genius of Plato, strong in that very power of persuasion the use of which he so much deprecated, won the day. The philosophic farvour which longed with passionate desire for unchangeable reality, that felt a lofty contempt for the meterial world with its ever-shifting phenomena, that aspired to rise to a heavenly region where changeless Ideas might be apprehended by pure intelligence purged from every bodily taint, was more than a match for the humble

208. Jones ii. intro. xxxvii-xxxviii.

researches of men who wished to relieve human suffering by a patient study of those very phenomena that Plato held of no account. So for centuries philosophy flourished and seience languished, in spite of Aristotle, Euclid and Archimedes."[209]

Something is evidently in need of being added to this brilliant analysis, for the question remains : "Why did Plato think in this way ? Plato had one of the best brains of which human history holds record."[210] Farrington has answered this question. The eclipse of science in ancient Greece has a far more deeper cause than can be discussed in terms of individual talents. Farrington's analysis of this needs to be read in full.[211] We have the scope here to quote only a few extracts from it.

"Plato's thought was corrupted by his approval of the slave society in which he lived...... In his *Laws* Plato organises society on the basis of slavery, and, having done so, puts a momentous question : 'We have now made arrangements to secure ourselves a modest provision of the necessities of life : the business of the arts and crafts has been passed on to others ; agriculture has been handed over to slaves on condition of their granting us a sufficient return to live in a fit and seemly fashion ; how now shall we organise our lives ?' A still more pertinent question would have been : 'How will our new way of life reorganise our thoughts ?' For a new way of life did bring a new way of thinking, and one that proved inimical to science. It was henceforth difficult to hold to the view that true knowledge could be arrived at by interrogating nature, for all the implements and processes by which nature is made to obey man's will had become, if not in fact yet in the political philosophy of Plato and Aristotle, the province of the slave."[212]

"We conclude that Plato not only made no direct contribution to positive science, but did much to discourage it. That is not to say, however, that he made no contribution to thought...... As for what was corrupt in his thought, we shall best understand it and most fairly judge it when we see in it the corruption

209. *Ib.* i. 7-9. 210. Farrington GS 106. 211, *Ib.* 79-133 ; 301-313.
212. *Ib.* 107.

of the age...... When we observe him, who had such a luminous intellect, putting the lamps of knowledge out, we see through his personal crisis into the crisis of ancient society."[213] "When we look for the causes of this paralysis (of science) it is obvious that it is not due to any failure of the individual.... No, when science as a whole became a prey to creeping paralysis, there was no lack of individual talent, no lack of individual genius... The failure was a social one and the remedy lay in public policies that were beyond the grasp of the age. The ancients rigorously organised the logical aspects of science, lifted them out of the body of technical activity in which they had grown or in which they should have found their application, and set them apart from the world or practice and above it. This mischievous separation of the logic from the practice of science was the result of the universal cleavage of society into freeman and slave."[214]

And so on. Farrington's analysis of metaphysics militating against science in ancient Greece, we repeat, needs to be read in full. When we do it, we can perhaps see basically the same story in ancient Greece as we see in ancient India, the differences of details notwithstanding. It is the story of how the ideological requirements of a hostile society force the consciousness of even great thinkers to develop in a direction which is disastrous for science.

15. THE IDEOLOGICAL UNDERWORLD

But let us return to the Indian context. In spite of the priestly contempt for medicine followed by the philosophical hostility to science in general in the official world-view of Upaniṣadic India, there is an important ground to think that medical science somehow or other makes progress even during this age. This is the evidence of the Pali *Vinaya-piṭaka*—the earliest canonical text of the Buddhists, which is generally admitted to record much of

213. *Ib.* 110. 214. *Ib.* 302-3.

tradition of the time of the Buddha. The level of medical knowledge and technique we read in it is quite advanced. As we shall see, it is rational therapeutics or *yukti-vyapāśraya bheṣaja* of the medical compilations, which leaves behind the earlier magico-religious therapeutics or *daiva-vyapāśraya bheṣaja* of the *Atharvaveda.* The presumption, in other words, is that sometime before the Buddha—i. e. not much later than the Upaniṣads—Indian medicine takes this prodigious step, despite the *Yajurveda*, *Brāhmaṇa*-s aud Upaniṣads. Pending the discussion of this, our present question is a different one. How are we to account for this progress of medicine, in spite of its condemnation in the officially approved norm ?

We shall try to answer this question as far as the internal evidences of the Upaniṣads enable us to do it. These evidences want us to note two points. First, even within the strongholds of Upaniṣadic norm, there continues an ideological underworld of heretics flouting the officially approved view of the cultivation of knowledge. Secondly, there are areas in the country outside the strongholds of the Upaniṣadic ideology where medicine continues to be cultivated ; such an area seems to attract even from Upaniṣadic India an exceptional thinker remaining perhaps by personal preference committed to the norm of science.

That the Upaniṣads sometime refer to heretics in the Upaniṣadic norm is well-known.[215] But the most picturesque description of the ideological underworld of heretics or disbelievers of the Upaniṣadic age is preserved in the *Maitrī Upaniṣad.* We quote it in rough rendering :

"Now then, Oh king, the hindrances to knowledge.
Verily, the source of the net of delusion is the fact of the association of one who is worthy of heaven with those who are not worthy of heaven. That is it. Although a grove is said to be before them, they cling to low shrub.
(Who then are the persons unworthy of heaven ? They are :)
Now, there are some who are the continually hilarious (*nitya-*

215. *Kaṭha Up.* i.20 ; ii.6 ; *Ch. Up.* viii.8.5 ; *Śvet. Up.* i.20 ; Probably also *Br. Up.* ii.4.12 & iv.5.13.

pramuditāḥ), continually roving about (*nitya-pravasitāḥ*) continually begging, continually living upon handicrafts (*nitya-śilpa-upajīvinaḥ*).

And moreover there are others who are town-beggars, who perform rituals for the unworthy (*ayājya-yājakāḥ*), who are disciples of the *śūdra*-s and who, in spite of being *śūdra*-s, are learned (*śūdrāḥ ca śāstra-vidvāṃsaḥ*).

And moreover there are others who are rogues, who wear their hair in a twisted knot, who are dancers, mercenaries, wanderers, actors, renegades in royal service and the like (*cāṭa-jaṭa-naṭa-bhaṭa-pravrajita-raṅgāvatāriṇaḥ rājakarmaṇi patitādayaḥ*).

And moreover there are others who say, 'If professionally paid for we can cure maladies caused by spirits, ogres, ghosts, goblins, snakes, sharks and the like (*yakṣa-rākṣasa-bhūta-gaṇa-piśācāḥ roga-grahādīnāṃ arthaṃ puraskṛtya śamayāmaḥ—iti evaṃ bruvāṇāḥ*).

And moreover there are those who vainly wear the red robe, ear-rings and skulls (*vṛthā kaṣāya-kuṇḍalinaḥ kāpālinaḥ*).

And moreover there are others who love to be a stumbling-block among the believers in Vedas (*vaidikeṣu paristhātum icchanti*) by the tricks of futile reasoning and observation of facts (*vṛthā tarka-dṛṣṭānta-kuhaka-indrajālaiḥ*)

(Such are the undesirable persons.) With these one must not associate. Verily, these people are but cheats, and they are unfit for heaven. Thus has it been declared :

> By the soul-denying doctrine based on the tricks of false observation and reason
> People are bluffed, disabling them to discern between what is genuinely Vedic and not so.
> (*nairātmya-vāda-kuhakaiḥ mithyā-dṛṣṭānta-hetubhiḥ/*
> *bhrāmyan lokaḥ na jānāti veda-vidyāntaraṃ tu yat//*"[216]

That this is a picture of the ideological underworld of Upaniṣadic India can hardly be doubted. The Upaniṣad wants us to believe that this underworld consists of a motley of heretics

216. *Mait. Up.* vii.8.

united by their common apathy for the scriptures or Vedas. The disciplines they are interested in are opposed to the Vedas. The purpose of the passage is to warn the king of these heretics —or perhaps to advise him to ostracize them—because of the grave ideological confusion they create among the people. From the Upaniṣadic viewpoint, they are the sources of delusion : *mohajālasya eṣa vai yoniḥ.* Lest this ideological danger posed by them is missed, the Upaniṣad concludes its discourse on the heretics with the advice : "Hence, what is set forth in the Vedas—that alone is true. The wise men must live only according to what is told in the Vedas. Therefore a Brahmin must not study what is non-Vedic. This should be the purpose,"[217]

So the main point is quite clear. Learning or knowledge is either Vedic or non-Vedic. What is non-Vedic is a form of heresy and a Brahmin must not go in for it. If, in spite of it, they dabble in these, they forfeit thereby their prospect for heaven. The main point of the passage, in short, is the defence of what we have called the counter-ideology.

Thus far, there is nothing new about this passage. What is specific about it, however, is the recognition of the fact of the ideological underworld in the Upaniṣadic age. It seems that towards the close of the Upaniṣadic period, this underworld of heretics becomes specially annoying for Vedic orthodoxy, for among the major Upaniṣads, the *Maitrī* is comparatively late, if not the latest one.[218]

Let us have a closer look at the motley of heretics of the Upaniṣadic passage. Among them are included those that are constantly roving about (*nitya-pravasitāḥ*), those who in spite of being *śūdra*-s are learned (*śūdrāḥ ca śāstra-vidvāṃsaḥ*). Some of them, somewhat like the Taoists of ancient China,[219] seem to be the followers of ancient folk-cults refusing to accept not only the philosophy patronised by the royal courts but also the royal services (*rājakarmaṇi patitādayaḥ*), perhaps because of the democratic commitment of these cults. In any case, the description *nitya-pramuditāḥ nitya-pravasitāḥ...cāṭa-jaṭa-naṭa*

217. *Ib.* vii.10. 218. Winternitz i.238. 219. Needham ii.35.

-bhaṭa-pravrajita-raṅgāvatāriṇaḥ...kaṣāya-kuṇḍalinaḥ kāpālinaḥ is indeed too significant to be missed : there still exist the followers of ancient folk-cults answering this vivid description, and known in Bengal for example as Āuls, Bāuls, Sahajiyās, Kāpālikas, Tāntrikas, etc., singing songs of *deha-tattva*—of the human body being a microcosm of the universe.[220]

Among these heretics we also see the logicians, denying soul on the strength of observation and reasoning (*dṛṣṭānta-hetu-bhiḥ*), understandably pronounced as mere perverse tricks (*kuhaka-indrajāla*) by the author of the Upaniṣadic passage. Along with the logicians, we see the physicians, though as far as this author understands, they are still practising the magico-religious therapeutics of the *Atharvaveda*—claiming to "cure diseases caused by the spirits, ogres, ghosts, goblins, snakes, sharks and the like." Whether medicine as such remains at this stage even towards the close of the Vedic period is a different question. The intense contempt for it among the champions of Vedic orthodoxy does not allow us to expect of them an objective knowledge of what is actually happening in the medical circles. They feel sure of only one thing. Medicine, in whatever stage of development it may be, belongs to the ideological underworld of the heretics. We are indebted to the *Maitrī Upaniṣad* for saying this in practically so many words.

16. UDDĀLAKA ĀRUNI : SCIENCE IN HOSTILE IDEOLOGICAL CLIMATE

If the *Maitrī Upaniṣad* tells us of the motley of heretics constituting the ideological underworld of Upaniṣadic India, we read in the *Chāndogya Upaniṣad* of an outstanding individual thinker trying earnestly to understand the mystery of man on the strength of reasoning, observation and even experimental demonstration. His name is Uddālaka Āruṇi, mentioned in the Upaniṣads also as Gautama. As far as the literary

220. see *supra* p.58-9.

records enable us to judge, he is the pioneer of science-oriented philosophy of India. In the general theoretical temper of Upaniṣadic India, his keen interest in science appears strange. The *Śatapatha Brāhmaṇa*, however, seems to indicate that he has to go somewhere outside the stronghold of Upaniṣadic ideology to be initiated in the knowledge of anatomy and physiology, which apparently forms the basis of the understanding of his main problem, namely that of the making of man.

Notwithstanding everything that is said about Uddālaka Āruṇi by the later Vedāntists, the Upaniṣads themselves give us the impression that he is somewhat maladjusted to the officially approved philosophy of the age. At any rate, compared to his idealist colleagues, his prestige in Upaniṣadic India in secondary. The reason for this is quite obvious. He is hardly interested in the idealist metaphysics so much then in demand at the royal courts. He prefers instead a rational and essentially secular explanation of man, inclusive of life, speech and mind.

The idealist metaphysics of the Upaniṣads is only the doctrine of the soul. Uddālaka Āruṇi is frankly uninterested in it. According to a legend of the *Chāndogya Upaniṣad*,[221] five great householders, greatly learned in sacred lore, raise among themselves questions about the soul (*ātman*) and reality (*brahman*). They go to Uddālaka Āruṇi for possible clarification concerning the Universal Soul. This being not a field of his specialisation, Uddālaka feels hesitant. He tells himself, "These great householders, greatly learned in sacred lore, will question me. I may not be able to answer them anything. Come, let me direct them to another." So he suggests that he should accompany them to a certain king called Aśvapati Kaikeya, and says, "Verily, sirs, Aśvapati Kaikeya studies just this Universal Soul. Come let us go to him." The king imparts to them his theory of the Universal Soul. In course of doing this, however, he asks each of them about their own understanding of the Universal Soul. Uddālaka's answer to this is extraordinary.

221. *Ch. Up.* v.11.1-4.

"Then he said to Uddālaka Āruṇi, 'Gautama, whom do you reverence as the soul ?'
'Only the earth (*pṛthivī eva*), sir, oh king', said he."[222]

Is this a way of putting that the philosopher is much too earth-minded—much too committed to the understanding of the material world — to indulge in the speculations concerning the soul ? In any case, Uddālaka represents a trend of thought quite different from the one most in vogue in the Upaniṣadic literature.

An earth-minded philosopher like him is not supposed to be greatly interested in the problem of the transmigration of the soul after it leaves the mortal abode. And the fact is, Uddālaka does not care for such a problem. A legend repeated in the Upaniṣads[223] appears to be quite outspoken about it. After Uddālaka teaches his son Śvetaketu the views he himself considers worthwhile, the son goes to the court of the Pañcālas. Pravāhaṇa Jaibali, one of the king's flatterers in the court, asks Śvetaketu five questions concerning the transmigration of the soul. Failing to answer any of these, the humiliated Śvetaketu returns to his father and complains of being inadequately instructed. Uddālaka frankly confesses that these qusetions concerning transmigration are beyond his own depth : "If I had known them, how would I have not told them to you ?" So Uddālaka himself goes to the king's court and patiently listens to what the others have to say about transmigration.

It needs to be noted that what Uddālaka listens from king Aśvapati Kaikeya about the Universal Soul, like what he listens from Pravāhaṇa Jaivali about the transmigration of the soul has absolutely no impact on his own philosophy. He is at heart interested in other problems and he wants to solve these in his own way.. These remain recorded in *Chāndogya Upaniṣad* vi, which is for us a brilliant document of science-oriented philosophy of ancient India. Here is the passage in outline :

222. *Ib.* v.17.1.
223. *Bṛ. Up.* vi.2.1 ff ; *Ch. Up.* v.3.1 ff. C.f *Kauṣ. Up.* i. which mentions the king by a different name.

Uddālaka Āruṇi has a son callled Śvetaketu. In accordance with the custom of the age, the son, when only a boy of twelve, is sent to study the *Ṛgveda* etc., which, already during the Upaniṣadic period, acquire scriptural status. Śveteketu, "having studied all the Vedas, returned at the age of twentyfour, conceited, thinking himself learned, proud". But the father is not impressed. As a philosopher, he is interested in the fundamental stuff underlying the infinite variety of things of the world. So he asks the son whether he has been taught anything about it. The son, having no idea of it, asks : 'How, pray sir, is that teaching ?'

Uddālaka says, 'Just as, my dear, by one piece of clay everything made of clay is known—the modification is only a verbal distinction, a name; the reality is just clay. Just as my dear, by one copper ornament everything made of copper is known—the modification is only a verbal distinction, a name; the reality is just copper. Just as my dear, by one nailcutter everything made of iron is known—the modification is only a verbal distinction, a name; the reality is just iron. So, my dear, is that teaching.'

Thus the philosopher feels that it is important above all to find out the first principle for the explanation of nature, assuming as a matter of course that behind the bewildering variety and multiplicity of things of nature, there is a discoverable or knowable first principle or primitive ground or fundamental stuff. Significantly this assumption itself stands on the plank of essentially empirical data—clay underlying the multiplicity of earthen things, iron underlying the multiplicity of all iron implements, and so on. In the general drift of his thought there is nothing that can be called scripture-orientation and surely no trace of mysticism.

But how is one to proceed towards the understanding of this first principle ? What is the starting point of enquiry ? Uddālaka feels that in quest of this principle, it is necesssary first to reject one theory which, as is evident from the Upaniṣads[224] is already in circulation in his time. According to this, everything comes

224. *Ch. Up.* iii.19.1 ; *Tait. Up.* ii.7. etc.

into being from non-being—from nothingness or void. As he argues,

"In the beginning, my dear, this world was just being (*sat*)—one only, without a second. To be sure, some people say,' In the beginning this world was just non-being (*a-sat*)—one only, without a second. From that non-being was produced being.' But, verily, my dear, whence this could be ? How from non-being could being be produced ? On the contrary, my dear in the beginning this world was just being—one only without a second."

The general drift of the argument cannot but be reminiscent of what is later known as the Sāṃkhya philosophy, the starting point of which is that since being cannot be produced from non-being, the essential nature of the cause is to be inferred from the essential nature of the effect. Depending on this, the Sāṃkhya is led to the view of a material first cause of the world, for the world being material its cause also has to be so. Judging from the close similarity between Uddālaka's opening argument and that of Sāṃkhya, one is easily tempted to think that the first cause Uddālaka speaks of—his *sat* or original being—is something like the *pradhāna* or primeval matter of Sāṃkhya. The later Vedāntists like Śaṃkara and Rāmānuja can clearly see such a materialist proclivity of Uddālaka's line of argument. Hence they vehemently argue that the *sat* of Uddālaka can never mean an unconscious material principle like the *pradhāna* of Sāṃkhya. We shall presently see how flimsy are the arguments they have to use for the purpose and how important are some of the Upaniṣadic evidences they have to ignore for forcing Uddālaka's view into the general mould of the officially boosted metaphysics of the Upaniṣads. But let us first sum up the main points of Uddālaka's thoughts.

His *sat* or 'being' is not anything like the 'pure being' of Parmenides—something immutable excluding all origination and decease, all diversity, divisibility and movement. Uddālaka's *sat* is auto-dynamic, containing within itself the principle of change and movement. It is from this being and because of its inherent nature that everything in the universe—inanimate as well as animate, physical as well as psychical—eventually

evolve, though as intermediate stages of this evolution, Uddālaka conceives of three principles, namely fire *(tejas)*, water *(ap)* and food *(anna)*.

Thus, because of the inherent dynamism of original being, first evolves from it fire. From fire evolves water, as evidenced by the fact that "whenever a person grieves or perspires from heat, water (as tears and perspiration) is produced." From water evolves food, as is evident by the fact that "whenever it rains, then there is abundant food. So food for eating is produced just from water."

In the standard of modern knowledge, all this is but puerile product of pseudo-observation. But we are not discussing here modern science. We shall miss the real significance of Uddālaka's views if we forget that we are discussing here one of the first philosophers of ancient India, as Thales is of ancient Greece. What makes Thales the pioneer of European science and philosophy is not the conclusion he arrives at but the mode of his arriving at it. His view that water is the first cause already forms part of the mythological speculations of the ancient Egyptians and Babylonians. Still, his position is remarkable, because he is the first in Europe to try to arrive at a first principle based on a rational analysis of empirial data, outgrowing for the purpose the spell of religious and mythological fancies of earlier times.[225] So is the position of Uddālaka Āruṇi in Indian history, who, chronologically speaking, is earlier than Thales. With the tools of observation and interpretation still extremely rudimentary, he sees water (tears and perspiration) being produced from heat, and he sees that food or vegetation is produced only when there is abundant water. Hence he thinks that from fire evolves water, and from water evolves food.

Thus arriving at the principles of fire, water and food, Uddālaka moves on to show that everything in the world—both inanimate aud animate—evolves from them. From the point of view of our present discussion, the most significant part of his discourse is the way in which he proposes to explain the

225. Farrington GS 36-7

evolution of man—inclusive of his life, speech and mind—from these three principles.

Uddālaka Aruṇi said to his son Śvetaketu : 'Food, when eaten, becomes divided into three parts. That which is its coarsest constituent becomes the faeces ; that which is medium, the flesh ; that which is finest, the mind (*mana*).

'Water, when drunk, becomes divided into three parts. That which is its coarsest constituent, becomes the urine ; that which is medium, the blood ; that which is finest, the life (*prāṇa*).

'Heat (ghee, butter, etc.), when eaten, becomes divided into three parts. That which is its coarsest constituent, becomes bone ; that which is medium, the marrow ; that which is finest, the speech (*vāc*).

'For, my dear, the mind consists of food ; life consists of water, speech consists of heat.'

Śvetaketu said : 'Do you, sir, cause me to understand even more.'

'So be it, my dear,' said he and continued :

'Of coagulated milk, my dear, when churned, that which is the finest essence, all moves upward ; it becomes butter.

'Even so, verily, my dear, of food, when eaten, that which is the finest essence, all moves upward ; it becomes the mind.

'Of water, my dear, when drunk, that which is the finest essence, all moves upward ; it becomes the life.

'Of heat, my dear, when eaten, that which is the finest essence, all moves upward ; it becomes speech.

'For, my dear, the mind consists of food ; the life consists of water ; the speech consists of heat.'

Śvetaketu said : 'Do you, sir, cause me to understand even more.'

'So be it, my dear,' said he and continued :

'A person, my dear, consists of sixteen parts. For fifteen days do not eat; drink water at will. Life, which consists of water, will not be cut off from one who drinks water.'

Then for fifteen days he (Śvetaketu) did not eat. After that he approached him, saying, 'What shall I say, sir ?'

'The Ṛg verses, my dear, the Yajus formulas, the Sāman chants.'

Then he said, 'Verily, they do not come to me.'

To him he then said, 'Just as, my dear, a single coal of the size of a fire-fly may be left over from a great kindled fire, but with it the fire would not thereafter burn much—so, my dear, of your sixteen parts a single sixteenth part may be left over, but with it you do not now apprehend the Vedas. Eat; then you will understand from me.'

Then he ate. So then he approached him. Then whatsoever he asked him, he answered everything. To him he then said :

'Just as, my dear, one may, by covering it with straw, make a single coal of the size of a fire-fly that has been left over from a great kindled fire blaze up, and with it the fire would thereafter burn much—so, my dear, of your sixteen parts a single sixteenth part has been left over. After having been covered with food, it has blazed up. With it you now apprehend the Vedas; for, my dear, the mind consists of food, the life consists of water, the speech consists of heat.'

Then he understood from him—yea, he understood...

Uddālaka continued : 'On this point, my dear, understand that this (body) is a sprout which has sprung up. It will not be without a root. What else could its root be than food ? Even so, my dear, with food for a sprout, look for water as the root. With water, my dear, as a sprout, look for heat as the root. With heat, my dear, as a sprout, look for Being (*sat*) as the root. All creatures here, my dear, have Being as their root, have Being as their home, have Being as their support...

'But how, verily, my dear, each of these three divinities (*devatā*), upon reaching man, becomes threefold, has previously been said.

'When a person here is deceasing, my dear, his speech goes into his mind, his mind into his life, his life into heat, the heat into the highest divinity (i.e. Being or *sat*). That which is the finest essence—this whole world has that as its soul. That is truth (*satya*). That is soul (*ātman*). That art thou (*tat tvam asi*), Śvetaketu.'

There are two—and only two—words in the entire discourse on which one can possibly bank to ignore or overlook the strong

materialist proclivity of the philosopher. These words are *devatā* and *ātman*, ordinarily meaning divinity and soul. But we have already seen the philosopher's understanding of *ātman* or soul. By it he means nothing but the earth—*pṛthivī eva*. Can he use the same word in the present discourse in more than a figurative sense ? So is presumably the sense of his use of the word *devatā*. He uses it for the ultimate reality—Being or *sat* —and also for the material elements successively evolving from it, viz. heat, water and food.

Notwithstanding the use of such words, the strong materialist tendency of his entire discourse is there for all to see. Its starting point is some form of *sat-kārya-vāda* or the potential pre-existence of the effect in the cause. When, starting from this he argues that from the original *sat* or being successively evolve three positively material elements—fire, water and food—the implication seems to be that this original *sat* contains the potentials of matter and in this sense is itself something material. Otherwise, from his standpoint, there is the absurdity of 'matter' being produced from 'not-matter'—a form of 'being' produced from 'non-being'. This, in short, is the reason why the Vedāntic idealists apprehend the danger of understanding Uddālaka's *sat* as something like the *pradhāna* or primeval matter of Sāṃkhya philosophy. The *Brahma-sūtra* attempts to discard this possibility and its later interpreters like Śaṃkara and Rāmānuja try to argue elaborately against it.

Referring to Uddālaka's *sat*, Śaṃkara argues : "It is impossible to find room in the Vedānta-texts for the non-intelligent *pradhāna*, the fiction of the Sāṃkhyas ; because it is not founded on Scripture."[226] Reiterates Rāmānuja, "That which does not rest on scripture, i.e. the *pradhāna*, which rests on inference only, is not what is intimated by the text referring to the origination of the world."[227] But what does Uddālaka himself claim ? Does he claim that his view of the *sat* is based on scriptures ? We have already noted the kind of enthusiasm he shows for scriptural knowledge. When Śvetaketu returns to him after studying the scriptures for twelve years and is full of

226. Śaṃkara on *Br. Sū.* i.1.5. 227. Rāmānuja on *Br. Sū.* i.1.5.

arrogance for his scriptural knowledge, Uddālaka asks him the question concerning the ultimate cause of everything in the world, only to be told that the son knows nothing about it, his scriptural studies notwithstanding. Uddālaka, instead of using even any scrap of scriptural evidence, depends only on observation and inference to substantiate his own view, and what is most amazing for the ancient context—goes even to the extent of an experimental verification of the view. The experiment, we repeat, is quite simple : The son does not eat food for fifteen days and he loses mind ; he eats food and his mind comes back ; therefore mind is the product of food.[228] When therefore, Śaṃkara and Rāmānuja argue that he cannot speak of anything like the *pradhāna* because that is based on inference rather than scripture, one is not obliged to attach much weight to the argument.

But, claim both Śaṃkara and Rāmānuja, there is a strong philological evidence in favour of their spiritualist interpretation of Uddālaka's *sat*. As Rāmānuja puts it, "the text exhibits the root *īkṣ*—which means 'to think'—as denoting a special activity on the part of what is termed Being (*sat*): 'It thought, may I be many, may I grow forth'. 'Thinking' cannot belong to the non-sentient *pradhāna* : the term Being (*sat*) can therefore denote only the all-knowing highest Person who is capable of thought."[229]

There is no doubt that in the text the root *īkṣ* is used with reference to the Being or *sat*. But the trouble is that in the very next sentences describing the evolution of water from fire and of food from water, we come across the use of the same root : "That heat bethought itself, 'Would that I were many. Let me procreate myself. It emitted water...The water bethought itself, 'Would that I were many. Let me procreate myself.' It emitted food." It thus seems that the use of the root *īkṣ* is only figurative—perhaps used by the ancient philosopher to

228. I have elsewhere shown that the argument attibuted by Jayanta Bhaṭṭa *NM* ii.12 is presumably based on this : Chattopadhyaya WLWD 443 ff.

29. Rāmānuja on *Br. Sū.* i.1.5.

exclude the possibility of any outside agency or any external will—for explaining the evolution of fire from Being, as of water from fire and food from water. In fact, Rāmānuja is aware of the possibility. The opponent, he says, would argue : "The transference to non-sentient things of attributes properly belonging to sentient beings is quite common ; as when we say 'the rice-field looks out for rain', 'the rain delighted the seed'."

So there is some limit beyond which Śaṃkara and Rāmānuja cannot rely on this philological evidence. They need some more argument to prove their case. As the decisive evidence for an idealist interpretation of Uddālaka's *sat*, therefore, they raise the question of liberation. How can Uddālaka, asks Rāmānuja, speak of a material first cause to "Śvetaketu, who is desirous of final release ?"[230] "If, on the other hand", continues Rāmānuja, "the text would teach that the non-intelligent *pradhāna* is the general cause, it could not possibly teach that the meditation on this *pradhāna* being a man's self is the means towards liberation."[231] Śaṃkara argues on the same line, adding that since the Upaniṣads elsewhere speak of an intelligent first cause, these cannot—in the discourse of Uddālaka—conceive the first cause or *sat* as something like the *pradhāna* or primeval matter, inasmuch as the Upaniṣads are scriptural revelations with a consistent view of the ultimate reality, the realisation of the nature of which leads to liberation. If Uddālaka speaks of a material first cause, he can only create confusion and thereby deny his son the prospect of liberation.[232]

From the viewpoint of Uddālaka's actual discourse, all these arguments are gratuitous. The text does not speak of Śvetaketu approaching Uddālaka "being desirous of final release", nor does Uddālaka show anywhere in the Upaniṣads any interest in liberation of the soul. The discourse attributed to him shows only intellectual curiosity in the scientist's sense. Therefore, in spite of Śaṃkara and Rāmānuja it is hard to dismiss the possibility that by Being or *sat*, Uddālaka means something like the primeval matter of Sāṃkhya. Since, in his view, the body—along with life, speech and mind—evolve ultimately from this

230. *Ib.* i.1.7. 231. *Ib.* 232. Śaṃkara on *Br. Sū.* i.1.7.

original Being, it is only natural for him to tell his son *tat tvam-asi*,'That thou art'—a formula about which there is almost endless mystification in later Vedānta literature.

From the point of view of our discussion of science and society in ancient India, the evidence of Uddālaka Āruṇi and his view is significant for a number of reasons. The society in which he lives is hostile to science. There is considerable financial and political support for a philosophical outlook which, by condemning experience and reason, condemns the knowledge of nature. The material human body is despised, and instead of any urge to know it and its making, the philosophers are encouraged to think of the soul, its transmigration and immortality. However, in spite of such a general intellectual climate, the Upaniṣadic literature is not without a thinker, who prefers to utilise his leisure for the purpose of working out an essentially scientific understanding of man—i.e his body, his life, his speech and his consciousness. To avoid humiliation in the king's court—and perhaps also to be ensured of the free time he requires for theoretical specialisation—he goes no doubt to the royal courts to listen to the theory of transmigration of the soul, and even has the patience to hear something about the Universal Soul from a petty king called Aśvapati Kaikeya. From his own discourse, however, it is obvious that all this makes little or no impression on him. Instead of soul, he talks only of the making of the body from fire, water and food—the same principles accounting also for the origin of life, speech and mind.

Such an absorbing interest in the body and in its life, speech and consciousness (mind) appears to presuppose training in medical tradition—specially in physiology and anatomy. Wherefrom does Uddālaka get this training ? Within the stronghold of Upaniṣadic culture, there is an almost total blackout of medical knowledge, allowing it to survive only among persons considered despicable heretics. However, outside this stronghold things are apparently different : areas comparatively backward from the viewpoint of Brahmanical orthodoxy are also comparatively free from the oppressive effect of Brahmanical ideology. Uddālaka goes to some obscure region of the

country, where the scientific pursuit is yet to be stifled by the officially patronised idealist philosophy of Upaniṣadic India. We shall mention here some evidences of this as preserved in the Vedic literature.

The most famous strongold of Upaniṣadic culture is Kuru-Pañcāla. Outside this region, scholars have a veritable awe for the learning of the Kuru-Pañcāla Brahmins.[233] It is therefore of interest to note that Uddālaka Āruṇi, in spite of being a Kuru-Pañcāla Brahmin, chooses to have his own training somewhere outside. i.e. in a comparatively backward area in the Vedic view. Referring to one of the places of his own education, he says in the *Bṛhadāraṇyaka Upaniṣad*[234] : "we were dwelling among the Madras in the house of Patañcala Kāpya." The exact geographical location of the Madras is discussed by others.[235] Macdonell and Keith[236] reject as "quite improbable" Weber's suggestion that the name Patañcala Kāpya is reminiscent of Kapila and Patañjali of the Sāṃkhya-Yoga philosophy. Still, there is something curious about what the *Bṛhadāraṇyaka* says of this teacher of Uddālaka. The Upaniṣad mentions him only twice—once saying that his daughter was possessed by a descendant of Aṅgiras,[237] and saying on another occasion that his wife was possessed by a descendant of Atharvans.[238] In the Vedic tradition, these two names are inseparably connected with the *Atharvaveda* and therefore also with the earliest medical tradition embodied in it. Can it be that the statements of being haunted by the descendants of Atharvans and Aṅgiras are but the Upaniṣadic way of putting that the tradition of ancient Indian medicine continues in Kāpya's home ? This is highly conjectural no doubt. Still, we cannot ignore the fact that Kāpya's name occurs in the list of the ancient authorities of medicine, who, according to the *Caraka-saṃhitā*,[239] gather somewhere on the slopes of the Himālaya in a grand medical conference from which ultimately emerges the medical compilation.

In the same list of medical authorities of the *Caraka-saṃhitā*,

233. *Śat. Br.* xi.4.1.2. 234. *Br. Up.* iii.7.1. 235. Sircar 30, 42. 96f ; *Vedic Index* i.123. 236. *Vedic Index.* i.473-4. 237. *Br. Up.* iii.4.1. 238. *Ib.* iii.7.1. 239. *Caraka-saṃhitā* i.1.11.

we read of Śaunaka.[240] What particularly interests us here is that the *Śatapatha Brāhmaṇa* mentions the same name, describes him as specialising in the problems of physiology and anatomy and tells us that Uddālaka Āruṇi—impressed by his knowledge of these—chooses to be a pupil of his. This Śaunaka, we are further told, lives in some comparatively unimportant place, outside the stronghold of Upaniṣadic culture. As is only to be expected of a *Brāhmaṇa*-text, while telling us the story of how Uddālaka Āruṇi becomes the student of Śaunaka, the *Śatapatha Brāhmaṇa* crams into it a good deal of mystification of ritual trivialities. Still, it may be possible for us to salvage the main features of the story from such mystifications. When we do it we can see the philosopher submitting himself to the physiologist for acquiring the kind of knowledge evidently no longer cared for in Kuru-Pañcāla.

We give below the main theme of this legend:[241]

Now Uddālaka Āruṇi was driving about, as a chosen (? champion) among the people of the northern country. By him a gold coin was offered; for in the time of our forefathers a prize used to be offered by the chosen when driving about, for the sake of calling out the timid to a disputation. Fear then seized the Brahmins of the northern people.

'This fellow is a Kuru-Pañcāla Brahmin and son of a Brahmin—let us take care lest he should deprive us of our domain : come, let us challenge him to a disputation on spiritual matters.' (Said the northern people among themselves.)

—'With whom for our champion ?'

—'With Svaidāyana.' Svaidāyana, to wit, was Śaunaka.

They said. 'Svaidāyana, with thee as our champion we will fight this fellow.'

He said, 'Well, then, stay ye here quietly : I will just find out what kind of man he is'.

He went up to him, and when he had come up, he (Uddālaka) greeted him saying, 'Svaidāyana !'

'Halloo, son of Gautama,' replied the other, and straightway began to question him...

240. *Ib.* i.1.13. 241. *Śat Br.* xi.4.1.1 ff.

.. 'He alone, O son of Gautama, may drive about amongst people as chosen, who knows...whereby it is that creatures here are born toothless, whereby they (the teeth) grow with them; whereby they decay with them, whereby they come to remain permanently with them; whereby in the last stage of life, they all decay again with them; whereby the lower ones grow first, then the upper ones; whereby the lower ones are smaller, and the upper ones broader; whereby the incisors are larger and whereby the molars are of equal size.

'He alone, O son of Gautama, may drive about amongst people as chosen who knows...whereby creatures here are born with hair; whereby for the second time, as it were, the hair of the beard and the arm-pits and other parts of the body grow on them; whereby it is on the head that one first becomes grey, and then, again, in the last stage of life, one becomes grey all over.

'He alone, O son of Gautama, may drive about amongst people as chosen who knows . whereby the seed of the boy is not productive, whereby in the middle age it is productive, and whereby again in his last stage of life it is not productive'.

Then he (Uddālaka) gave up to him the gold coin, saying, 'Thou art learned, Svaidāyana; and verily gold is given unto him who knows gold.'

And he (Svaidāyana) having concealed it went away.

They asked him, 'How did that son of Gautama behave?'

He said, 'Even as a Brahmin, and the son of a Brahmin: the head would fly off whosoever should (dare to) challenge him in a disputation.'

They then went away in all directions.

He (Uddālaka) then came back to him, with fire-wood in his head, and said, 'I want to become thy pupil.'

—'What wouldst thou study?'

—'Even those questions which thou didst ask me—explain them to me.'

He said, 'I will tell them to thee even without thy becoming my pupil.'[242]

242. Tr. SBE xliv.50-4.

Not that we expect Śaunaka of the *Śatapatha Brāhmaṇa* to know the real answers to these questions. Nor do we expect the priestly compilers of such legends to record objectively whatever knowledge Śaunaka has about these things.

In spite of all this, it is impossible to miss one point. The problems raised by Śaunaka are problems of anatomy and physiology. One interested in these is presumably connected with the medical tradition, though the *Śatapatha Brāhmaṇa* does not tell us anything more about Śaunaka's connection with medicine. But it does tell us two things significant for our main discussion. First, from the standpoint of Upaniṣadic culture, Śaunaka belongs to a relatively unimportant area—an area where people are somewhat nervous to face the Kuru-Pañcāla elites. Secondly, Uddālaka Āruṇi, in spite of being a Kuru-Pañcāla Brahmin, submits himself to Śaunaka and wants to become his pupil, attracted by the specialisation of the latter in anatomy and physiology of those days. Clearly enough, Uddālaka's mind is working in a direction different from the one so much in vogue in Upaniṣadic India—i.e. different from the direction of evolving a world-denying mataphysics of pure ego (*ātman*), which, judged by the legends of Yājñavalkya and others, is a grand paying proposition in Upaniṣadic India.

Thus the legend of the *Śatapatha Brāhmaṇa* seems to give us a clue to the otherwise unexplained mystery of Uddālaka Āruṇi representing a basically science-oriented outlook in a general intellectual climate positively hostile to science.

However, as is only to be expected, Uddālaka Āruṇi remains on the whole a neglected and tragic figure in the subsequent development of strictly Vedic philosophy. From the *Chāndogya Upaniṣad* we have the impression of his moving towards the doors of science—towards the understanding of man and nature on the strength of reasoning, observation and even experimental verification. In the course of the subsequent development of Upaniṣadic philosophy, however, these doors are never opened. There is none to inherit his thoughts and work for its further development. Any development of his line of thought that we possibly see in later times takes place outside the followers of the Upaniṣads, specially among the physicians. Des-

pised as degenerates by profession. They alone try to develop an uninhibited view of man and nature depending on reasoning and direct observation, and thus continue the line of investigation of Uddālaka and hence perhaps also of his teacher Śaunaka. From the viewpoint of the history of Indian science, what happens to Uddālaka's teachings among the followers of Upaniṣads or Vedānta is distressing. There is only the tenacious tendency to twist some of his words and verbal expressions, so that these can somehow be forced into the general mould of world-denying and body-despising (*śārīraka*) metaphysics, insisting on the recognition of the exclusive reality of the bare ego or *ātman*. Uddālaka's teachings, in short, are made to pass into their opposite. The promise of science is sought to be converted into a component of the counter-ideology. Such a fate of his teachings, howsoever regrettable, is also understandable. The inheritance of science means the defiance of the counter-ideology and therefore also the basic social norm on which this counter-ideology thrives and which it wants to safeguard. In other words, it requires the courage of questioning the validity of the hierarchical society itself. Among the followers of the Upaniṣads there is none to do it.

17. VEDIC AND MEDICAL TRADITION : ATHARVAVEDA

The legend of the *Śatapatha Brāhmaṇa* just discussed mentions Uddālaka's teacher as Śaunaka. Other evidences of Vedic literature indicate that this is the name of an ancient clan or *gotra*.[243] What makes this clan most famous in the Vedic tradition is its connection with the *Atharvaveda*. Of the many recensions in which the *Atharvaveda* was once current,[244] the one best preserved for us is that of the Śaunakas. We cannot but remember this while noting the special interest shown in the problems of anatomy and physiology by Uddālaka's teacher, because the *Atharvaveda* contains for us "the oldest system of

243. *Vedic Index* ii.396. 244. Dasgupta ii.283.

Indian medical science."[245] The Śaunaka recension of the *Atharvaveda* thus indicates the cultivation of Atharvavedic system of medicine among members of the ancient Śaunaka clan. Can it then be that Uddālaka's teacher who bears this clan name is one connected with medicine ?

At the present stage of research we know too little about the ancient Śaunakas to answer this question fully. Much about the *Atharvaveda*, however, is too well-known today to be ignored while discussing the history of ancient Indian medicine.

We propose to review three points about the *Atharvaveda.*

First, in what sense is the *Atharvaveda* the oldst literary record of Indian medicine ?

Secondly, what happens to the prestige of the *Atharvaveda* in the comparatively later Vedic tradition when the counter-ideology militates against medicine ?

Thirdly, how do the doctors of the medical compilations look back at the *Atharvaveda* ?

The first two of these questions are extensively discussed by the modern scholars and it remains for us mainly to sum up their observations.

The *Atharvaveda* enables us to see that among the ancient Vedic peoples medicine begins basically in the same way in which it does among other peoples in their primitive stage, i.e. mainly as magical charms and incantations intended to appease, subdue or drive away all sorts of devils, demons and hobgoblins imagined to cause diseases. One of the two themes of the *Atharvaveda* is *bheṣaja,* though not yet in the sense of later medical literature. As Dasgupta says,[246] "The word *bheṣaja* in the *Atharvaveda* meant a charm or an amulet which could remove diseases and their symptoms." To this he adds the following note : "Bloomfield says that the existence of such charms and practices is guaranteed moreover at least as early as the Indo-Iranian (Aryan) period by the stems *baeṣaza* and *baeṣazya*···and by the pre-eminent position of water and plants in all prayers for health and long life. Adalbert Kuhn has pointed out some interesting and striking resemblances between Teuto-

245. Winternitz i.127. 246. Dasgupta ii.295.

nic and Vedic medical charms, especially in connection with cures for worms and fractures. These may perhaps be mere anthropological coincidences, due to the similar mental endowment of the two peoples. But it is no less likely that some of these folk-notions had crystallized in prehistoric times, and that these parallels reflect the continuation of a crude Indo-European folk-lore that had survived among the Teutons and Hindus.'"[247]

A later work called the *Kauśika-sūtra* gives "the most minute directions for the performance of those magic rites for which the songs and spells of the *Atharvaveda* were used."[248] S.N. Dasgupta's view concerning the possible development of ancient Indian medicine from the *Atharvaveda* to the *Kauśika-sūtra* may be noted here :

"In the *Atharvaveda* itself only a few medicines are mentioned, such as *jaṅgiḍa* (xix.34 and 35,) *gulgulu* (xix.38), *kuṣṭha* (xix.39) and *śata-vāra* (xix.36), and these are all to be used as amulets for protection not only from certain diseases, but also from the witchcraft (*kṛtyā*) of enemies. The effect of these herbs was of the same miraculous nature as that of mere charms and incantations. They did not operate in the manner in which the medicines prescribed in the ordinary medical literature acted, but in a supernatural way. In most of the hymns which appear as pure charms the *Kauśika-sūtra* directs the application of various medicines either internally or as amulets...The period of the *Kauśika-sūtra* was probably one when the value of the medicinal herbs was being more and more realized and they were being administered along with the usual Atharvanic charms. This was probably a stage of reconciliation between the drug system and the charm system."[249]

But there is no ground to think that even as supplemented by the *Kauśika-sūtra*, the system of Atharvavedic medicine shows much sophistication. Here is some idea of it given by Dasgupta : "*Atharvaveda* i.2 is a charm against fever (*jvara*), diarrhoea (*atīsāra*), diabetes (*atimūtra*), glandular sores (*nāḍī-vraṇa*); a string of *muñja* grass is to be tied, the mud from a field or ant-hill is to be drunk, clarified butter is to be applied

247. *Ib.* ii.295n. 248. Winternitz i.280. 249. Dasgupta ii.293-4.

and the holes of the anus and penis and the mouth of the sore are to be aerated with a leather bladder and the charm is to be chanted. The disease *āsrāva*, mentioned in this hymn, is explained by Sāyaṇa as meaning diabetes (*mūtrātīsāra*). Atharva veda i.3 is a charm against stoppage of urine and stool (*mūtra-purīṣa-nirodha*). Along with a chanting of the hymn, the patient is to be made to drink either earth from a rat's hole (*mūṣika-mṛttikā*), a *pūtikā* plant, curd or saw-dust from old wood, or he is to ride an elephant or a horse, or to throw an arrow; a fine iron needle was to be passed through the urinal canal...Atharvaveda i.7 and i.8 are charms for driving away evil spirits, *yātudhāna*-s and *kimīdin*-s, when a man is possessed by them. Atharvaveda i.10 is a charm for dropsy (*jalodara*) : a jugful of water containing grass etc. is to be sprinkled over the body of the patient."[250]

More details of Atharvavedic medicine are not necessary for our present purpose. Even as supplemented by the *Kauśika-sūtra*, it gives us the impression of mainly magico-religious therapeutics. But the decisive fact about the *Atharvaveda* is that it does indicate the beginnings of medicine, without which the subsequent career of Indian medicine is not easily conceivable.

What view, then, is taken of this earliest literary document of Indian medicine in the comparatively later Vedic tradition, when the counter-ideology declares its contempt for medicine? Bloomfield[251] has extensively surveyed the scriptural and legal literature—*śruti*, *dharmaśāstra* and *smṛti*—for determining the status of the *Atharvaveda* in later Vedic view. It may be sufficient for us to mention here some of the data compiled by him to see how the custodians of hierarchical ideology propose to disown and even denounce the *Atharvaveda* for its medical content.

The *Yajurveda* is clearly reluctant to allow the *Atharvaveda* the status of Veda proper. The usual way of doing this is to speak only of the three Vedas (*trayī* or *trayī-vidyā*), ignoring the fourth Veda, which the *Atharvaveda* is normally expected to be. "The *Taittirīya-saṃhitā* mentions *ṛk* (*Ṛgveda*), *sāman*

250. *Ib.* ii.296. 251. Bloomfield in SBE xlii intro. pp. xxiii ff.

(*Sāmaveda*) and *yajuḥ* (*Yajurveda*) alone...This also, in the main, is the nature of the references to the *Atharvaveda* in the *Śatapatha Brāhmaṇa*. Either the term *trayī-vidyā* is used, or *ṛk*, *sāman* and *yajuḥ* are mentioned explicitly...In all these cases, there is no mention of the Atharvan; but neither is there any mention of any other literary type that has a distinctive standing outside the *trayī-vidyā*."[252] "The *Vājasaneyi-saṃhitā* mentinos the *trayī-vidyā* frequently; the Atharvan is nowhere mentioned in connection with the other three. Once a woman that miscarries is devoted to the Atharvans; the reference... seems to be to Atharvan hymn or Atharvanic practices. Otherwise the word *atharvan* occurs in connection that admits of no special, or at any rate obvious, reference to the fourth Veda. Neither is there, as far as is known, any mention of the Atharvan in the *Maitrāyaṇī-saṃhitā*, the *Aitareya* and *Kauṣitakī Brāhmaṇas*, or Kātyāyana's and Lāṭyāyana's Śrauta-sūtras"[253]

Thus the first well-formed priestly literature is clearly reluctant to allow *Atharvaveda* full Vedic status. What is it about the *Atharvaveda* that specially annoys the priests ? The Atharvavedic charms are classified mainly under two groups, called *bheṣaja* and *yātu* (*adhicāra*). The former are aids to magico-religious therapeutics; these are usually described as *śānta*, 'holy', and *pauṣṭika*, 'conferring prosperity'. The latter is usually translated as aggressive witchcraft or hostile sorcery and are deseribed as terrible or *ghora*.[254] The *Ṛgveda*[255] considers *yātu* as devilish; but the "*Śatapatha Brāhmaṇa* x.5.2.20 is not prevented from placing the *yātuvidaḥ*, 'those who are skilled in sorcery', in solemn array with the representatives of the holiest forms of literature...as the characteristic exponent of Atharvanic activity. And on the other hand even *bheṣajam*, 'cure, medicine', the altruistic province of the Atharvan, though well regarded in general, does not come off without a sneer."[256] Thus the resistance to *Atharvaveda* is a resistance to *bheṣaja* or medicine and not so much to *yātu* or hostile magic which proves useful for kings. The later legal literature or *dharmaśāstra*

252. *Ib*. p. xxxvi. 253. *Ib*. p. xxxviii. 254. *Ib*. p. xviii & xxxviii.
255. *Ṛv*. vii.104.15-6. 256. Bloomfield *op. cit*. p. xxxix.

seems to throw some light on this, because it tells us that "the Atharvan performs, especially for the king, inestimable services in the injury and overthrow of enemies. The King's Chaplain (*purohita*) was in all probability as a rule an Atharvan priest."[257]

Still, "the *dharma*-literature pronounces with no uncertain voice the judgment that the Atharvan, while useful and indispensable under certain circumstances, is on the whole inferior in character and position, that its practices are impure, and either stand in need of regulation, or must be prohibited by proper punishment."[258] Accordingly, "the conspicuous omission of this Veda which characterises the *śrauta*-literature... is continued in the *dharma* texts."[259] In the law-codes of Baudhāyana and Manu, "the recitation of the *trayī-vidyā* is recommended as the most efficient means of purification and release from sin."[260] In the cosmogonic account of Manu, "only *ṛk*, *yajuḥ* and *sāman* are derived from the primeval creation".[261] In Baudhāyana and Manu, "the *trayī-vidyā* and its adherents only appear at the funeral offerings (*śrāddha*)."[262] In Manu the "adherents of the three Vedas are recommended as an assembly to decide points of law."[263] "The inferiority of the Atharvan is stated outright" in the law-codes of Āpastamba, "where it is said that the knowledge of women and *śūdra*-s is a supplement of the *Atharvaveda*."[264]

Bloomfield compiles more evidences the real implication of which seems to connect the contempt for *Atharvaveda* with the contempt for medicine. "An especially pointed reflection against the *Atharvaveda* is implied in the prohibition of the *mūlakriyā* or *mūlakarma*, 'practices with roots'." In the Law-codes of Viṣṇu, "wives are specially forbidden to engage in such practice and at Manu xi.64 practices with roots are generally forbidden. Such practices abound in *Atharvaveda* and its ritual."[265] From the evidences compiled by Bloomfield it further appears that the legal contempt for the *Atharvaveda* may partly be due also to the democratic commitment of the latter. According to the law-codes of Gautama, Viṣṇu and Manu, "he who practises for

257. *Ib.* p. xlvi. 258. *Ib.* 259. *Ib.* p. xlix. 260. *Ib.*
261. *Ib.* 262. *Ib.* 263. *Ib.* 264. *Ib.* 265. *Ib.* p. l.

the multitude (*grāmayājaka*) is pronounced impure; we may presume that this kind of activity was largely, if not entirely in the hands of Atharvan priests."[266]

More evidences like these are perhaps unnecessary. If the counter-ideology feels obliged to denounce the ancient Vedic gods because of their medical past, it has logically to disown the *Atharvaveda* because of its medical content. Interestingly, the continue disrespect for *Atharvaveda* in the Vedic tradition creates a situation in which a medieval compendium of Indian philosophy called *Sarva-mata-saṃgraha* goes to the extent of declaring that an adherence to it is such a mark of philosophical disrespectability that it befits only the heretics or materialists. While discussing the Cārvākas, it asserts that according to them only *Atharvaveda* and *Gāndharvaveda*—the latter concerned with dance, music and acting—are the Vedas. As the text puts it, "In the Cārvāka view, only material prosperity and erotic enjoyment are valid human ideals. As committed to these, only the *Atharvaveda* and *Gāndharvaveda* are to be considered as Vedas": *artha-kāmau eva puruṣārthau. tanniṣṭhau atharva-gāndharva-vedau eva ca vedau.*[267] This, it is needless to say, is not to be taken literally; because there is no ground to think that the Cārvākas care much for Veda as such. Still the evidence is interesting because it is indicative of the attitude to *Atharvaveda* of the medieval Vedic philosophers, for whom whatever is approved of by the Cārvākas must be something contemptuous.

In the context of our present discussion, there remains only one more question. How do the physicians want to look back at the *Atharvaveda* ? The *Caraka-saṃhitā* leaves nothing vague about the answer. Of the four Vedas—namely *Ṛgveda*, *Sāmaveda*, *Yajurveda* and *Atharvaveda*—they see practically nothing in the first three to claim special allegiance of the physician. If therefore the physician is asked to declare his allegiance to some Veda, he can only say that it is an exclusive allegiance to the *Atharvaveda*. As the text says, "The physician may be asked to answer the question, 'Of the four vedas—the *Ṛgveda*, *Sāmaveda*, *Yajurveda* and *Atharvaveda*—to which Veda the followers

266. *Ib.* p. li. 267. *Sarva-mata-saṃgraha* p. 15.

of Āyurveda declare affiliation ?'...Thus pressed for an answer, the physician should declare his allegiance to the *Atharvaveda* from among the four Vedas, namely *Ṛgveda, Sāmaveda, Yajurveda* and *Atharvaveda*" : *tatra cet praṣṭāraḥ syuḥ : caturṇām ṛk-sāma-yajuḥ-atharvavedānāṃ kaṃ vedam upadiśanti āyurveda-vidaḥ ?...tatra bhiṣajā pṛṣṭena evaṃ caturṇām ṛk-sāma-yajuḥ-atharvavedānām ātmanaḥ atharvavede bhaktiḥ ādeśyā.*[268]

There is evidently something daring about this because it is a declaration of affiliation to the *Atharvaveda to the exclusion of the other three Vedas*, i.e. to the exclusion of what enjoys highest scriptural authority according to the priests and law-givers. But the *Caraka-saṃhitā* wants to be clear about one thing. From the physician's viewpoint, the question of the affiliation to Veda has nothing to do with scriptural authority. Of the four Vedas, only the *Atharvaveda* deserves his respect because it alone has medical content. As the *Caraka-saṃhitā* says, the physicians have respect for the *Atharvaveda* because it prescribes therapeutic and other measures beneficial for life (*cikitsā ca āyuṣaḥ hitāya upadiśyate*).[269] Thus, whatever may be the status of the *Atharvaveda* in the priestly and legal view, objectivity demands that the physician has respect for this earliest work on medicine.

At the same time, it is remarkable of the *Caraka-saṃhitā* to tell us in its own way that the physician's respect for the *Atharvaveda* is not to be misunderstood. The therapeutic technique recommended by the *Atharvaveda* is ancient after all. Medical science after the *Atharvaveda* makes much progress and the nature of therapeutic technique embodied in the *Caraka-saṃhitā* is qualitatively different. Therefore, acknowledging what appears to be the real historical importance of the *Atharvaveda*—and without proposing to reject its recommendations altogether—the *Caraka-saṃhitā* suggests that physicians belonging to its own tradition are to be trained in a different therapeutic technique altogether. This leads us to see how the text differentiates between the magico-religious therapeutics of

268. *Caraka-saṃhitā* i 30.20-21. 269. *Ib.* i.30.21.

ancient *Atharvaveda* and rational therapeutics represented by itself.

18. MAGICO-RELIGIOUS TO RATIONAL THERAPEUTICS

Immediately after declaring the physician's allegiance to the *Atharvaveda*, the *Caraka-saṃhitā* passes on to explain the nature of therapeutic technique embodied in it. There is a very good reason for doing this. The historical importance of the *Atharvaveda* notwithstanding, the physicians of our medical compilations have to recommend a different therapeutic technique. It is interesting to see how they explain this rather delicate point.

The therapy recommended by the *Atharvaveda*, says the *Caraka-saṃhitā*, is based on offering gifts (to priests), propitiatory rites, oblations, auspicious observances, sacrifices, vows, penances, fastings, magical incantations, etc. : *dāna-svastyayana-bali-maṅgala-homa-niyama-prāyaścitta-upavāsa-mantra-ādi-parigrahāt cikitsāṃ prāha.*[270]

According to our way of putting it, this is magico-religious therapeutics of ancient India, based on the assumption that diseases are being caused by supernatural agencies. In the terminology of the *Caraka-saṃhitā*, it is *daiva-vyapāśraya auṣadha* (or *bheṣaja*), literally 'therapy depending on the supernatural'. The medical compilation wants to be clear about its exact nature mainly in two places and, what is very significant, in both places for the purpose of contrasting it with the system of medicine the *Caraka-saṃhitā* itself stands for. This other system of medicine, in the terminology of our text, is *yukti-vyapāśraya bheṣaja* (or *auṣadha*), literally 'therapy depending on rational application'. Thus, in other words, though fully acknowledging the importance of the *Atharvaveda* for Indian medical science and without rudely rejecting its therapeutic technique outright, the *Caraka-saṃhitā* seems to remind us in a polite and tactful way that, in spite of the humble beginnings

270. *Ib.*

of medicine as magico-religious therapeutics, it has already taken a momentous step forward, i.e. to the system of rational therapeutics which is embodied in this medical compilation.

This transition from magico-religious to rational therapeutics is crucial for the history of Indian medicine. The way in which the *Caraka-saṃhitā* draws our attention to it has also its own interest. It can be seen from the contexts in which the text feels the need of explaining the difference between the two. The difference is first introduced in the course of clarifying the general principles of Āyurveda, i. e. in the Sūtra-sthāna of the *Caraka-saṃhitā*. It is taken up again in the chapter we have already referred to as designed specially to clarify the logico-epistemological categories considered essential as theoretical equipments of the physicians. Both the contexts indicate the importance attached to the understanding of the basic difference between magico-religious and rational therapeutics for the conceptual clarification of the practising doctors.

While discussing the fundamental principles of Āyurveda (Sūtra-sthāna), the distinction between the two systems of medicine occurs immediately after a description of the model physician. Proficiency in medicine (*vaidyatvam*), the text says, resides in those who have acquired mastery over theory and practice of medicine and, on the strength of this, are capable of ensuring actual cure and hence also of happiness and long life.

prayoga-jñāna-vijñāna-siddhi-siddhāḥ sukha-pradāḥ/
jīvitābhisārāḥ te syuḥ vaidyatvaṃ teṣu avasthitam//[271]

This naturally raises the question : What exactly is meant by the mastery of the theory and practice of medicine ? The *Caraka-saṃhitā* feels the need of answering the question in some detail. It says :

"Medicine is of three kinds, viz. 'based on the supernatural', 'based on rational application' 'and based on mental control'.

"Among these, medicine 'based on the supernatural' consists of incantations, herbs, gems, auspicious rites, oblations and offerings, sacrifices, vows, ceremonial penances, fasting, propitiatory rites, worship, pilgrimage, etc.

271. *Ib.* i.11.53.

"'Medicine based on rational application' consists of prescribing substances as diets and drugs.

"'Medicine based on mental control' consists of withdrawing the mind from unwholesome things."

trividham auṣadham iti : daiva-vyapāśrayam, yukti-vyapāśrayam, sattvāvajayaḥ ca. tatra daiva-vyapāśrayam : mantra-oṣadhi-maṇi maṅgala-bali-upahāra-homa-niyama-prāyaścitta-upavāsa-svastyayana-praṇipāta-gamana-ādi. yukti-vyapāśrayaṃ punaḥ āhāra-auṣadha-dravyāṇāṃ yojanā. sattvāvajayaḥ punaḥ ahitebhyaḥ arthebhyaḥ mano-nigrahaḥ.[272]

We read no more in the *Caraka-saṃhitā* of the conscious cultivation of indifference to the unwholesome—i.e. of what is called *sattvāvajaya* above—as a separate or independent form of therapeutic technique. One reason for this seems to be that while judging all sorts of substances from the medical viewpoint, the text elaborately discusses what is wholesome and what is unwholesme, implying thereby that one has to avoid the unwholesome substances for the sake of health. In other words, 'withdrawing the mind from the unwholesome' appears to be already included in the discussion of various substances from the medical viewpoint, i.e. in what is called the system of rational therapy. It is perhaps for the purpose of putting special emphasis on the need of avoiding the unwholesome as an aid to health that in this particular context the *Caraka-saṃhitā* speaks of it separately.

In any case, it is difficult to conceive that the conscious cultivation of the indifference to the unwholesome is considered by the physicians as a separate system of therapeutics altogether—not at least in the sense in which the other two are viewed. This is evidenced by the *Caraka-saṃhitā* itself. While discussing the logico-epistemological equipments necessary for the physician, the text returns to the clarification of the difference between the different therapeutic systems. In this context, it mentions only the first two forms of therapy, namely the magico-religious and the rational.

Let us first see how the *Caraka-saṃhitā* introduces this

272. *Ib.* i. 11.54.

discussion. Among the logico-epistemological categories relevant for medicine, ten are considered to be specially important. As the text says, "Only after adequately examining these ten, one should undertake the responsibility of doing something. Hence the physician, before taking up his work, must thoroughly examine these ten categories that require to be examined".[273] These ten categories are: *kāraṇa*, *karaṇa*, *kārya-yoni*, *kārya*, *kārya-phalānubandha*, *deśa*, *kāla*, *pravṛtti*, etc.[274] Of these ten, we shall have here a brief idea of the first five. By *kāraṇa* or the cause is meant the agent or one who performs an action.[275] In the medical context, it means the physician.[276] By *karaṇa* or instrument is meant that which is being prescribed by the agent for performing his action.[277] In the medical context, it means therapeutics or *bheṣaja*.[278] By *kārya-yoni* or source of action is meant that which, when altered, attains the state of the effect.[279] In the medical context, it means the imbalance of the body-elements (*dhātu-vaiṣamya*).[280] By *kārya* or effect is meant that which the agent strives to bring into being.[281] In the medical context, it means the balance of the body-elements (*dhātu-sāmya*).[282] By *kārya-phala* or '(ultimate) result of the effect' is meant the ultimate goal after which the agent strives.[283] In the medical context, it means the attainment of happiness or well-being of the patient.[284]

Among these what specially interests us here is *karaṇa* or instrument which, in the medical context, means that which is prescribed by the physician. It is, in short, the therapeutic technique. Explaining its nature, the *Caraka-saṃhitā* says, "It (*karaṇa*, i.e. therapeutic technique) is to be classed under two heads, depending on that upon which it is based. These are: 'based on the supernatural' and 'based on rational application'. Of these two, the one 'based on the supernatural' consists of incantations, herbs, gems, auspicious rites, oblations and offerings, sacrifices, vows, ceremonial penances, fasting, propitiatory rites, worship, pilgrimage, etc.

273. *Ib.* iii.8.79. 274. *Ib.* iii.8.68. 275. *Ib.* iii.8 69
276. *Ib.* iii.8.84. 277. *Ib.* iii.8.70. 278. *Ib.* iii.8.84.
279. *Ib.* iii.8.71. 280. *Ib.* iii.8.84. 281. *Ib.* iii.8 72.
282. *Ib.* iii.8.84. 283. *Ib.* iii.8.73. 284. *Ib.* iii.8.84.

'(Therapeutic technique)' based on rational application' consists of such measures the results of which are directly perceived, i.e. measures like correction (of the imbalance of body-elements) or removal (of the cause of disease)".

tat dvividham vyapāśraya-bhedāt. daiva-vyapāśrayam yukti-vyapāśrayam ca iti. tatra daiva-vyapāśrayam : mantra-oṣadhi-maṇi-maṅgala-bali-upahāra-homa-niyama-prāyaścitta-upavāsa-svastyayana-praṇipāta-gamana-ādi. yukti-vyapāśrayam : saṃśodhana-upaśamana-ceṣṭāḥ ca dṛṣṭa-phalāḥ.[285]

Here we can clearly see the classification of therapeutic techniques under two heads, called *daiva-vyapāśraya* and *yukti-vyapāśraya*. The description of the first given here is identical with the one given in the passage previously quoted. Besides, it is basically the same as what the *Caraka-saṃhitā* describes as the magico-religious therapeutics of the *Atharvaveda*. Since there is no ground to think that rational therapeutics or *yukti-vyapāśraya bheṣaja* means some therapeutic system different from the one mentioned in the passage previously quoted, we have to seek for the possible reasons for the changed expressions used for its description in the present one. It is not difficult to guess these reasons. Measures with directly perceptible results like correction of the imbalance of body-elements or the removal of the causes of disease, from the viewpoint of the *Caraka-saṃhitā*, depend only on the use of various natural substances as diets or drugs. Hence, these are but two ways of putting the same point, though in the passage just quoted the expression *dṛṣṭa-phalāḥ* or "directly perceived results" seems to have the added significance of the rejection of *adṛṣṭa* or "unseen hangovers of past *karma*", which is an important component of the magico-religious world-view.

With this clarification about the two therapeutic systems, we are left to answer only one question. Which of these two is actually recommended or accepted by the genuine physician of the *Caraka-saṃhitā* ? Does he suggest that the physician proper is to be trained in both these therapeutic systems ? Does he suggest that both these being equally valid, the physician is

285. *Ib.* iii.8.87.

supposed to select any of the two for his own specialisation ? Does it suggest that though these two forms of therapy are current in the world, the real physician is to be trained only in one of these ?

A survey of the *Caraka-saṃhitā* leaves us with no doubt as to what it recommends. Though with some kind of perfunctory references to the Atharvavedic therapy of magical charms and incantations and even to the special services of the Atharvavedic priests[286]—which may or may not be later grafts on the work—the text as a whole comes out with a masssive verdict exclusively in favour of *yukti-vyapāśraya bheṣaja*, defined as therapeutics based on the use of substances as diets and drugs : *āhāra-auṣadha-dravyāṇāṃ yojanā*. This alone is supposed to have directly perceptible results like correction of the imbalance of body-elements and hence also of the removal of the actual cause of disease—*saṃśodhana-upaśamana-ceṣṭāḥ ca dṛṣṭa-phalāḥ*. After what we have already discussed about the *Caraka-saṃhitā* in the first chapter, is not in need of further discussion. But we should like to re-emphasise only a few points here. One of the basic theses of the *Caraka-saṃhitā* is that medical treatment depends on four factors. These are : the doctor, nurse, patient and the substances.[287] The therapeutic system of our medical compilation is based on substances prescribed as diets or drugs—*āhāra-auṣadha dravyāṇāṃ yojanā*—and not on the use of magical spells, incantations, etc. In full conformity with this, the Cikitsā-sthāna or section of therapeutics proper—considered by the *Caraka-saṃhitā* itself as its very foundation[288]—embodies a staggering amount of data about all sorts of natural substances, discussed from the viewpoint of their medical efficacy. The *Suśruta-saṃhitā* also devotes an entire chapter[289] to prove that from the medical viewpoint the substances alone are all-important.

There is thus no doubt that the therapeutics embodied in the two compilations is substance-based and not based on incan-

286. *Ib*. iv.8.31 ; 33 ; 34 ; 47 ; 62 ; vi.1A.59. 287. see *supra* p. 190f.
288. see *supra* p. 22. 289. *Suśruta-saṃhitā* i.40.

tations etc. But that is what *yukti-vyapāśraya bheṣaja* by definition is.

19. THE CHRONOLOGICAL QUESTION

It is evident from what is just discussed that the doctors of the *Caraka-saṃhita* are quite conscious of the step taken by Indian medicine from magico-religious therapeutics of the *Atharvaveda* to rational therapeutics of their own. One of the questions that specially interests the historian in this connection is that of chronology. Is it possible for us to specify the post-Atharvavedic period when this transition takes place? We are going to see that as far as literary records enable us to judge, it takes place sometime before the Buddha.

Before passing on to these literary records, let us try to clarify another point. It is concerning the possible date of our medical compilations, specially of the *Caraka-saṃhitā.* We have already seen[290] why any tendency at absolute dating of the work is bound to be fallacious. Before attaining the form in which it reaches us, the compilation passes through the hands of various authorities who variously add to it or alter it. According to its final "reconstructor", Dṛḍhabala, the whole of this work is based on the oral discourse of an individual authority, codified by another individual authority, revised by an intermediate editor called Caraka, and finally reconstructed by Dṛḍhabala.

The weakest point of this story seems to be obvious. If Caraka is just the name of an intermediate editor of the work how can the work as a whole acquire the firm reputation in Indian tradition as *Caraka-saṃhitā* or Caraka-compilation? It is therefore strange that the modern scholars often show the tendency of depending on this weakest point of Dṛḍhabala's story for the purpose of dating the medical compilation. In other

290. see *supra* p. 24-45.

words, they search for the evidence of an individual medical authority bearing the name Caraka, and depending on this, propose the dating of the original *Caraka-saṃhitā.* Following this procedure, the majority of modern scholars are inclined to place the medical compilation in the first century A.D. The most important evidence on which they depend is summed up by Filliozat as follows: "Certain Buddhist texts in Chinese talk of a certain *Tche lo kia* or *Tche le,* i.e. Caraka or Cara, who was the doctor of King Kaṇiṣka. This fact has been simultaneously recognised by Sylvain Levi and by Takakusu."[291] Kaṇiṣka's date being known by the historians, this evidence of Caraka having been his court physician is supposed to remove the uncertainties about the date of the *Caraka-saṃhitā.*

But what exactly is the importance of the evidence so much relied upon ? Filliozat has already answered the question. The Chinese sources mentioning Kaṇiṣka's physician are two. One of these is the translation of an anthology of tales. In Chinese translation, its title reads *Tsa pao tsang king,* suggesting the original Sanskrit title *Saṃyukta-ratna-piṭaka-sūtra.* The date of its Chinese translation is about A.D. 472. "It refers only to the friendship of Kaṇiṣka for his doctor who by his advice keeps him protected from all diseases".[292] The title of the other work, in Chinese, is *Fou fa tsang yin yuan tchouan.* Though it also claims to be a translation into Chinese, "H. Mespero has shown that the work in its present form is a forgery, composed in China on the lines of other works, towards the middle or end of the VIth century."[293] This work describes "the relations of Caraka and Kaṇiṣka, the former himself offering his services as a doctor to the king, and by means of clever obstetrical moves, twice saving the queen on her death-bed while in the throes of delivery, leaving the king who did not pay much attention to his advice and retiring from the world."[294]

There is thus no question of attributing a great deal of historical importance to what is said in this second source. As for the first, Filliozat observes, "It is true that the *Tsa pao tsang king,* translated in Chinese only about three hundred

291. Filliozat 16-7. 292. *Ib.* 17. 293. *Ib.* 294. *Ib.* 17-8.

years after the reign of Kaṇiṣka, existed in Sanskrit before and had, therefore, been composed at a date quite near to that of Kaṇiṣka. The memory of the real contemporaries of this prince could have been faithfully preserved till then and, in any case if it were the question of a more recent author, the Caraka in question could not have lived a long time after the 2nd century."[295]

However, admitting that this other source is comparatively more reliable, what exactly can it prove about our *Caraka-saṃhitā*? Filliozat rightly comments, "even if the doctor of Kaṇiṣka was effectively called Caraka, we are not certain that he was the same Caraka who has revised the *Agniveśa-tantra*"[296] or our medical compilation. The more important question which Filliozat seems to ignore in the present context is concerning the credibility of Dṛḍhabala's statement about Caraka. This credibility is very low, because it is extraordinarily strange for Indian tradition to remember a work by the name of one whose contribution to it is secondary after all. On the other hand, as we have already noted, the word *caraka* seems to be a general descriptive epithet of a number of wandering sects of ancient India, of which one could as well be the sect of ancient doctors : the plausibility of this is suggested by the name Cāraṇavaidya or "roving physician" of a lost recension of the *Atharvaveda* and moreover by the fact that "roving about" is considered a necessary accomplishment of the physicians by their own tradition. Thus, the *Caraka-saṃhitā* could as well mean the medical compilation of some sect of the ancient roving physicians, whatever may be the subsequent history of processing this compilation. From this point of view, there is nothing improbable about a doctor belonging to such a sect being attached to Kaṇiṣka's court, as is perhaps indicated by the Chinese source. However, even admitting the connection of a certain *caraka* with Kaṇiṣka, Kaṇiṣka's date cannot have much relevance for the dating of our medical compilation.

In any case, at the present stage of research any attempt to

295. *Ib.* 18. 296. *Ib.*

date the medical compilation depending on the word *caraka* would at best be highly conjectural. Also conjectural would be the effort to fix the date of Ātreya or Agniveśa, because it is not easy to salvage anything of sound historical significance from the legends about them. Besides, the doctrinal content of the *Suśruta-saṃhitā* is basically the same as that of the *Caraka-saṃhitā*, though in the former the medical views are not attributed to Ātreya at all.

These difficulties notwithstanding, there is something of sound significance for the historian of Indian science for the purpose of settling the chronological question under consideration. It is the general nature of the doctrinal content of the medical compilations, which, in the terminology of *Caraka-saṃhitā*, is *yukti-vyapāśraya bheṣaja*, defined as therapeutic system based on the use of natural substances as diets and drugs, and this as contrasted with *daiva-vyapāśraya bheṣaja* or therapeutic system based on incantations, charms, etc. Instead of trying to settle the date of the vast medical compilations with their highly complex history of formation, the more important question for the historian seems to be a different one. Do we have any evidence of Indian medicine having already assumed the form of rational therapeutics—an evidence about the date of which we are on comparatively safer ground ? Such an evidence, if any, would enable us to have some idea about the actual formation of the medical views contained in the *Caraka-saṃhitā* and *Suśruta-saṃhitā*, though not about the compilations themselves.

20. EVIDENCE OF THE VINAYA-PIṬAKA

The evidence is to be found in the Pali canonical work of the Buddhists called *Vinaya-piṭaka*. It is the collection of rules for Buddhist order, which the Buddhists themselves "place at the head of the canon."[297]

297. Winternitz ii.21.

It is not the place for us to discuss the question concerning the date of actual redaction of the *Vinaya-piṭaka*. It is generally agreed that the process of settling the actual teachings of the Buddha specially about the codes of conduct of the monks begins shortly after the death of the prophet and that, about a hundred years later, this is done in a big way in what is usually called the Second Council. Roughly in the third century B.C. these teachings are committed to writing in the form of the present Pali canons. However, all these prove nothing definite against the possibility of the extant Tripiṭaka embodying much of the ancient tradition. An outright denial of this possibility perhaps leaves us with the scepticism that Buddhist canonical texts tell us nothing authentic about the Buddha and his views. Rejecting this scepticism we propose to depend here on the assumption that the *Vinaya-piṭaka* contains much about the Buddhist tradition traceable to the times of the Buddha.

Of the various texts comprising the *Vinaya-piṭaka*, one is called Mahāvagga or 'the great section'. It is an invaluable source for the history of Indian science, because it contains a long 'section' on medicaments. This section enables us to see that the therapeutic system which the *Vinaya-piṭaka* is aware of is already fully rational or *yukti-vyapāśraya*. Before quoting it extensively, it may be helpful to have some preliminary clarification.

Why—and how far—the Buddha discards the hierarchical norm of society is a question on which the modern scholars have sharply differed. However, this much is generally agreed on that he has no patience for the counter-ideology of the Vedic priests nor for the world-denying metaphysics of the pure soul, which dominates the Upaniṣads. This enables him to take a keen interest in medicine, specially as connected with the well-being of the monks. We shall first quote a few accounts from the Mahāvagga showing this interest and then pass on to see in some detail the nature of the therapeutic technique he approves of.

Here is the summary of a moving account from the Mahāvagga.

A certain monk had a disturbance in his bowels and was lying on his own evacuations. The Buddha, accompanied by Ānanda, while going round the sleeping places of the monks, came to this *bhikkhu's* abode and saw so. He asked Ānanda to fetch some water. The Blessed One then poured this water on the monk and venerable Ānanda wiped him clean. And the Blessed One taking hold of him at the head, and the venerable Ānanda at the feet, they lifted him up and laid him down upon his bed. Then the Buddha convened a meeting of the community of monks, where he delivered the following sermon : "Ye, oh *bhikkhu*-s, have no mothers and no fathers who might wait upon you. If ye, oh *bhikkhu*-s, wait not one upon the other, who is there indeed who will wait upon you ? Whoever, oh *bhikkhu*-s, wait upon me, he shall wait upon the sick."[298]

With this intensely human approach, the Buddha is also realistic enough to remind the monks that successful medical care depends also on certain qualities of the patient himself. As the text puts in the mouth of the Buddha : "There are five qualities, oh *bhikkhu*-s, which, when a sick man has, he is easy to wait upon. (These are :) 1) when he does what is good for him; 2) when he knows the limit of the quantity of food that is good for him; 3) when he takes his medicine; 4) when he allows a nurse who desires his good to know what manner of disease he has, or when it is getting worse that that is so, or when it is getting better that that is so, or when it is stationary that that is so ; and 5) when he is able to bear bodily pains that are severe, sharp, grievous, disagreeable, unpleasant, and destructive to life."[299]

Is this not reminiscent of the system of rational therapeutics of the *Caraka-saṃhitā*, according to which, of the four factors on which the success of medical treatment depends, one is the patient himself. The medical compilation also enumerates the desirable qualities of the patient contributing to his cure, and notwithstanding some difference in detail of this list with the one

298. *Mahāvagga* viii.26.1-3. SBE xvii. 240-41.
299. *Ib.* viii.26.6. SBE. xvii. 242.

attributed to the Buddha, it is significant that both the lists are absolutely silent about *karma*, in which alone the counter-ideology is interested in seeing the causes of disease as well as of cure.

According to the rational therapeutics of the *Caraka-saṃhitā*, certain qualities of the nursing attendant too are conducive to successful treatment of the patient. Fully in agreement with the spirit of this principle, the Buddha declares : "There are five qualities, oh *bhikkhu*-s, which, when one waits upon the sick has, he is competent to the task. (These are) 1) when he is capable of prescribing medicines; 2) when he knows what is good and what is not good for his patient, serving what is good and not serving what is not good for him; 3) when he waits upon the sick out of love and not out of greed; 4) when he does not revolt from removing evacuations, saliva or vomit ; 5) when he is capable from time to time of teaching, inciting, arousing and gladdening the patient with religious discourse"[300] The absence of the last point in the *Caraka-saṃhitā*, like its presence in the Buddha's sermon, is easily understood. The more important point for our understanding of the history of Indian medicine is the one on which the two are agreed. This agreement becomes all the more striking when we consider the question of the nature of drugs and diets approved by the Buddha for the members of his monastic community or *saṃgha*. Before taking it up, let us note another legend of the Mahāvagga, which seems to have also a delightful humour about it. It tells us that the arrangements for medical care of the *bhikkhu*-s within the *saṃgha* creates such a problem for the Buddha that he is eventually obliged to declare that a sick person is not to be allowed ordination and entry into the order.

The Buddhist tradition tells us of a very renowned physician of Buddhist India called Jīvaka Komārabhacca. We shall presently see what we know of him and his medical practice from the *Vinaya-piṭaka*. Jīvaka was the physician of king Bimbisāra of Magadha, a personal friend of the Buddha and also the per-

300. *Ib*. viii.26.8. SBE xvii.242-3.

sonal physician of the Buddha himself. In spite of his busy practice, being a devout Buddhist himself, he was also looking after the medical needs of the monks in the *saṃgha*. Says the legend :

At that time these five diseases prevailed among the people of Magadha—leprosy, boils, dry leprosy, consumption and fits. The people who were affected with these five diseases went to Jīvaka Komārabhacca, and said : 'Pray, doctor, cure us.'
'I have too many duties, sirs, and am too occupied. I have to treat the Magadha king Seniya Bimbisāra, and the royal seraglio, and the fraternity of *bhikkhu*-s with the Buddha at their head. I cannot cure you.'
'All that we possess shall be yours, doctor, and we will be your slaves; pray, doctor, cure us.'
'I have too many duties etc...; I cannot cure you.'
Now those people thought : '...What if we were to embrace the religious life among the Sākyaputtiya Samaṇas; then the *bhikkhu*-s will nurse us, and Jīvaka Komārabhacca will cure us.' Thus these persons went to the *bhikkhu*-s and asked them for the *pabbajjā* ordination; and the *bhikkhu*-s conferred on them the *pabbajjā* and *upasampadā* ordinations; and the *bhikkhu*-s nursed them and Jīvaka Komārabhacca cured them...
Now one day a man who was affected with the five diseases went to Jīvaka Komārabhacca and said, 'Pray, doctor, cure me.'
'I have too many duties, sir,...etc. etc.; I cannot cure you.'
'All that I possess shall be yours, doctor, and I will be your slave; pray, doctor, cure me,'
'I have too many duties...etc., etc.; I cannot cure you.'
Now that man thought : '...What if I were to embrace the religious life of the Sākyaputtiya Samaṇas; then the *bhikkhu*-s will nurse me, and Jīvaka Komārabhacca will cure me. When I have become free from sickness, then I will return to the world.' Thus the man went to the *bhikkhu*-s and asked them for the *pabbajjā* ordination; the *bhikkhu*-s conferred on him the *pabbajjā* and *upasampadā* ordinations; and the *bhikkhu*-s nursed him, and Jīvaka Komārabhacca cured him. When he had become free from sickness, he returned to the world. Now

Jīvaka Komārabhacca saw this person that had returned to the world; and when he saw him he asked that person: 'Had you not embraced the religious life, sir, among the *bhikkhu*-s ?'
'Yes, doctor.'
'And why have you adopted such a course, sir ?'
Then that man told Jīvaka Komārabhacca the whole matter.
Then Jīvaka Komārabhacca was annoyed, murmured, and became very angry. He reported the whole thing to the Buddha. In consequence of that and on this occasion the Blessed One, after having delivered a religious discourse, thus addressed the *bhikkhu*-s : 'Let no one, oh *bhikkhu*-s who is affected with the five diseases, receive the *pabbajjā* ordination. He who confers the *pabbajjā* ordination (on such a person) is guilty of a *dukkaṭa* offence.'[301]

A legend like this cannot grow out of nothing, nor for nothing can it find place in such an important canonical work. The Buddha's concern for the medical care of the monks within the order creates such conditions in which the easiest and most inexpensive way of getting the best medical attention in Buddhist India is to enter the *saṃgha*. There are naturally also people cunning enough to take advantage of this, against whom the Buddha has to take measures.

21. MEDICINE IN BUDDHIST INDIA

An entire section of the Mahāvagga of *Vinaya-piṭaka* is concerned with medicaments. It bears the title *bhesajjaka*.[302] It shows the stage already reached by medical science in Buddhist India. This stage is unmistakably what is called *yukti-vyapāśraya bheṣaja* in the medical compilation, defined by it as 'therapeutic system based on substances as diets and drugs.' Here is a summary of the section based on its translation by Rhys Davids and Oldenberg.[303]

301. *Ib.* i.39. SBE xiii.191-4. 302. *Ib.* vi. 303. SBE xvii. 41-145. Only the word *doṣa* is translated as 'morbid matter' instead of 'humour'.

The *bhikkhu*-s were once attacked by the sickness of the hot season, threw out the rice-milk they had drunk, and the food they had eaten. And thereby they became lean, rough, ill-favoured, yellow and ever yellower, and the veins stood out on their limbs. So the Buddha asked himself, 'What medicaments shall I now prescribe for the *bhikkhu*-s, as may be authorised as common medicine, and may be diffused through the body, though it be not regarded as ordinary food ?' And the Blessed One thought, 'These five medicaments—that is to say, ghee, butter, oil, honey, molasses —are such medicaments. Let me then prescribe them as medicines which the *bhikkhu*-s may accept at the right time, and use at the right time.' Now at that time the *bhikkhu*-s accepted those five things at the right time, and used them at the right time. And foods which though rough, were ordinary foods, they could not digest, much less greasy foods. Then they—attacked both by the hot-season disease, and by this want of appetite—became still more lean, rough, ill-favoured, yellow and ever yellower, and with the veins standing out on their limbs. So the Buddha prescribed, 'I permit you, oh *bhikkhu*-s, not only to receive those five medicaments, but to use them both at the right time, and at other times.'

Once the *bhikkhu*-s who were sick had need of fatty substances as medicine. They told this thing to the Blessed One. And the Buddha said, 'I allow you, oh *bhikkhu*-s, the use of the fat of bears, of fish, of alligators, of swine and of asses, if received at the right time, mixed at the right time, to be partaken of with oil.'

The nature of the text may not require of it the specification of diseases for which these forms of animal fats are recommended. Bnt it is of interest to note that the *Caraka-saṃhitā* recommends the use of a wide variety of animal fats as remedies for various diseases—of goat[304], crow[305], cobra[306], tortoise[307], crocodile[308], pecker group of

304. *Caraka-saṃhitā* i.25.38 ; vi.11.27. 305. *Ib.* vi.8.151.
306. *Ib.* vi.14.48 ; vi.26.259. 307. *Ib.* vi.28.128. 308. *Ib.*

birds (*pratuda*-s)[309], bear[310], lion[311], camel[312], feline animals[313] and tiger[314]. All these indicate that in Indian medicine —i.e. in its rationalist or maturer stage—there is an extensive enquiry into the medicinal properties of animal fats and, therefore, the Buddha's approval of the use of a number of animal fats for the cure of certain diseases is evidently taken from actual medical recommendations.

Once the *bhikkhu*-s who were sick had need of roots for medicine. When the Buddha was told about it, he said, 'I allow you, oh *bhikkhu*-s, the use of roots as medicine —turmeric, ginger, orris root, white orris root, *ativisa*, black hellebore, *usīra* root, *bhaddamuttaka*, and whatever other roots are used for medicine, and impart an appetising flavour to foods, either hard or soft[315], which the sick *bhikkhu*-s could not otherwise eat. They may be received and stored up your lifelong; and, if there be necessity, they may be eaten. If eaten without necessity (the *bhikkhu* who uses them) is guilty of a *dukkaṭa* offence.'

It will be tedious to prepare here a list of the large number of roots recommended in the *Caraka-saṃhitā* as specific remedies of various diseases. Nor is such a list necessary for our present purpose. The Buddha is evidently aware that the physicians use a very large variety of roots as medicines. It is enough for his purpose to mention only a few of these adding 'and whatever other roots are used for medicine.' From the viewpoint of austerity expected of the monks, it is necessary for him only to add that such roots are to be used by them specifically for medical purposes.

At the same time, there is also a problem from the medical viewpoint about the use of these roots, and the *Vinaya-piṭaka* wants us to believe that the Buddha is realistic enough to understand it. The roots are not supposed to be swallowed as such : some implements are necessary for the

309. *Ib.* vi.29.74. 310. *Ib.* vi. 30.112. 311. *Ib.* vi.3.306.
312. *Ib.* vi.14. 48. 313. *Ib.* 314. *Ib.* vi.3.305.
315. See SBE xiii.39 n 5 on 'hard' and 'soft' food : the former means cakes, meats, fruits, etc ; the latter boiled rice, curry. etc.

purpose of powdering these. The Buddha allows these implements to the monks. "Now at that time the *bhikkhu*-s who were sick had need for medicine of different sorts of flour made from roots. They told this thing to the Blessed One. The Buddha said, 'I allow you, oh *bhikkhu*-s, the use of a grindstone, and another stone to grind upon.' "

Following this stereotyped style, the text goes on telling us that a wide range of other substances also were allowed by the Buddha to be used as medicine for the *bhikkhu*-s.

The sick monks were once in need of astringent decoctions as medicine. The Buddha said, 'I allow you, oh *bhikkhu*-s, the use of astringent decoctions as medicine—the *nimba, kuṭaja*, the *pakhava*, the *nattamāla*, and whatsoever astringent roots are used for medicine, which impart an appetising flavour to foods, either hard or soft, which the sick *bhikkhu*-s could not otherwise eat. They may be received and stored up your lifelong; and if there be necessity they may be eaten. If eaten without necessity (the *bhikkhu*) is guilty of a *dukkaṭa* offence.'

The sick monks were once in need of leaves as medicine. The Buddha said, 'I allow you, oh *bhikkhu*-s, the use of leaves as medicine—the leaves of the *nimba*, of the *kuṭaja*, of the *paṭola*, of the *tulasī*, of the *kappāsika*, and whatever other leaves are used for medicine, and impart an appetising flavour to food.

The sick monks were once in need of fruits as medicine. The Buddha said, 'I allow you, oh *bhikkhu*-s, the use of fruits as medicine—the *viḍaṅga*, the *pippala* and *marica* peppers ; the *harītaka*, and *vibhītaka*, and *āmalaka* myrobalans ; the *goṭha* fruit, and whatsoever other fruits are used for medicine.

The sick *bhikkhu*-s were once in need of gums as medicine. The Buddha said, 'I allow you, oh *bhikkhu*-s, the use of gums as medicine—*hiṅgu*, *hiṅgu* lac, *sipāṭikā*, *taka*, *taka patti*, *takapaṇṇi*, *sajjulasa*, and whatever other gums are used for medicine.'

The sick *bhikkhu*-s were once in need of various kinds of salt as medicine. The Buddha said, 'I allow you, oh *bhikkhu*-s, the use of salts as medicine—sea salt, black salt,

rock salt, kitchen salt, red salt, and whatsoever other salts are used in medicine.'

The venerable Belaṭṭhasīsa had a disease of thick scabs; and by reason of the discharge thereof his robes stuck to his body. The Buddha said, 'I allow, oh *bhikkhu*-s, the use of *chunam* as a medicine by whomsoever has the itch, or boils, or a discharge, or scabs, or whose body is ill-smelling, and to those in health, the use of dry dung, and of clay and of colouring matter. I allow the use, oh *bhikkhu*-s, of a pestle and mortar.' When sifted *chunam* was needed as medicine, the Buddha allowed the monks the use of a *chunam* sieve; when very fine *chunam* was needed as medicine, the Buddha allowed the monks the use of a cloth sieve.

What is next told in the text is extremely interesting. The Buddha is evidently aware that by the medical science of his days is prescribed even raw flesh and blood for the cure of some diseases. But can he go to the extent of allowing these to the *bhikkhu*-s? The *Vinaya-piṭaka* wants us to believe that he does, though instead of specifying the nature of the disease that requires such medicines, it only tells us that the disease "is not human".

"Now at that time a certain *bhikkhu* had a disease not human. Though his teacher and his superior nursed him, they were not able to make him well. He went to a place where swine were slaughtered, and ate the raw flesh and drank the blood. Thereby his sickness abated. They told this thing to the Blessed One. He said, 'I allow, oh *bhikkhu*-s, in the case of a disease not human, the use of raw flesh and the blood.'"

For disease of the eyes, the Buddha allows the monks the use of eye ointments, to wit, black collyrium, *rasa* ointment, *sota* ointment, *geruka* and *kapalla*. As the need was felt for perfumes to grind up into ointments, the Buddha allows the monks the use of sandal wood, *tagara*, black *anusāri kālīya*, and *bhaddamuttaka*.

The venerable Pilindavaccha had a head-ache. The Buddha allowed the monks the use of a little oil on the head. The disease became no better. The Buddha allowed the practice

of taking up medicine through the nose. The nose ran. The Buddha allowed the use of a nose-spoon. The nose took up the medicine in unequal proportions. The Buddha allowed the use of a double nose-spoon. The disease became no better. The Buddha allowed to sniff up the aroma. They used to spread the drugs on a wick before they sniffed up the aroma ; and their throats got burnt. The Buddha allowed the use of a pipe to conduct the aroma, and lest the aroma-pipes rubbed against one another, also the use of a double bag to carry these and a shoulder strap by which to carry the double bag.

The venerable Pilindavaccha was troubled with wind in the stomach. The physician said he must drink oil. The Buddha allowed the *bhikkhu*-s the use of a decoction of oil. It was necessary to put strong drink into the decoction, which was allowed. The Chabbaggiya Bhikkhus took this opportunity, put too much strong drinks into their decoctions of medicinal oils and got drunk. The Buddha prohibited the practice of putting too much of strong drinks into such decoctions and, as to the decoctions already prepared with too much of strong drinks, he recommended its use as an ointment.

The venerable Pilindavaccha once had rheumatism. The Buddha allowed the monks 'to bring on sweating'. The disease became no better. The Buddha allowed the monks to bring on sweating by the use of herbs which have that effect. The disease became no better. The Buddha allowed the monks the use of a great steam bath. The disease became no better. The Buddha allowed the monks the use of hemp-water. The disease became no better. The Buddha allowed the monks the use of hot baths in water in which medicinal herbs have been steeped.

The venerable Pilindavaccha once had intermittent ague. The Buddha allowed the 'letting of blood.' The disease became no better. The Buddha allowed the use of a horn to let blood.

Once the feet of the venerable Pilindavaccha were blistered. The Buddha allowed ointment for the feet. The disease became no better. The Buddha allowed to keep water ready for washing the feet (perhaps, as Rhys Davids and Oldenberg suggest,

as "some curative application of water to the feet, such as cold water bandages, for example").

A certain *bhikkhu* had once boils. The Buddha allowed the use of lancet. Decoctions of astringent herbs were required and the Buddha allowed these. Sesamum salve was required, and it was allowed by the Buddha. Compresses were required and were allowed by the Buddha. It was necessary to tie up the sore with cloth and the Buddha allowed the use of bandages for tying up wounds. The sore itched and the Buddha allowed the sprinkling of a sore with mustard-powder. The sore became moist. The Buddha allowed to fumigate the sore. Proud flesh formed on the wound. The Buddha allowed to cut off proud flesh with a lancet. The wound would not close up. The Buddha allowed the use of oil for wounds. The oil ran over. The Buddha allowed the use of fine rags and of all kinds of ways of treating wounds.

A certain *bhikkhu* was once bitten by a snake. The Buddha allowed the four kinds of filth to be given—dung, urine, ashes and clay.

A certain *bhikkhu* had once drunk poison. The Buddha allowed as an emetic a decoction of dung.

A certain *bhikkhu* once suffered from the *ghara-dinnaka* (?) disease. The Buddha allowed him to drink a decoction of soil turned up by the plough.

Incidentally, the nature of the disease referred to is not clear. It is suggested that it is a disease imagined to be caused by hostile sorcery.[316] Admitting the suggestion, the *Vinaya-piṭaka* seems to remain true to the spirit of natural cure even for diseases of allegedly supernatural origin. It is an evidence of how staunchly the text remains committed to rational therapeutics.

A certain monk had constipation. The Buddha allowed to give him a decoction of the ashes of burnt rice.

A certain monk was suffering from jaundice. The Buddha allowed to give him a drink of decoction made with urine.

316. SBE xvii.60n.

A certain monk once suffered from skin disease. The Buddha allowed the anointing with perfumes.

A certain monk once had a superfluity of morbid matter (*doṣa)* in the body. The Buddha allowed to give a purgative. Clarified gruel was required, the use of which was allowed by the Buddha. Natural juice was required and its use was allowed by the Buddha. Artificial and natural juice was required, the use of which was allowed by the Buddha. Meat broth was required, and the Buddha said, 'I allow, oh *bhikkhu*-s, the use of meat broth.'

We shall presently see how the Buddha and his followers try to reconcile their ethics of non-injury to the use of meat and meat-broth etc. for medical purposes. For the present, let us have a few words on an important point about what is just quoted. The *Vinaya-piṭaka* is already aware of the theory of morbid matter or *doṣa* and of their excess in the body causing diseases. This theory is absolutely crucial for the rational system of medicine, as we know it from the *Caraka-saṃhitā* and *Suśruta-saṃhitā*. Admitting the authenticity of the *Vinaya-piṭaka*, therefore, this is another proof that the rational system of medicine takes shape already before the Buddha. Besides, the passage just quoted does not contain the only reference to the theory of morbid matter or *doṣa* in the *Vinaya-piṭaka*. The same text refers to the same theory and in a context more important from the Buddhist viewpoint. Here is a summary of it :

"At that time a disturbance had befallen the morbid matters or *doṣa*-s of the Blessed One's body. And the Blessed One said to the venerable Ānanda : 'A disturbance, Ānanda, has befallen the *doṣa*-s of the Tathāgata's body; the Tathāgata wants to take a purgative.' So Ānanda went to Jīvaka Komārabhacca and told him about it. The physician said, 'Well, venerable Ānanda, you ought to rub the Blessed One's body with fat for a few days.' After doing this, Ānanda reported again to Jīvaka. Jīvaka thought : it was not becoming to give very strong purgative to the Buddha. So he imbued three handfuls of blue lotuses with various drugs and gave it to the Buddha in three doses—each supposed to purge the body ten times. After the purgings, Jīvaka said to the Buddha, 'Lord, until the Blessed One's body

is completely restored, you had better abstain from liquid food.' And ere long, the Blessed One's body was completely restored."[317]

The theory of *doṣa* or morbid matter in body causing disease is referred again—though this time briefly—by the Mahāvagga, where the Buddha says that of the ten-fold 'merits attached to rice-milk' one is that it 'sets right the morbid matters of the body.'[318]

But let us return to the other medical data contained in the Mahāvagga section on medicament.

Once the Buddha was troubled with wind in the stomach. And the venerable Ānanda thinking, 'Now formerly the Blessed One when suffering from wind in the stomach had ease from *tekaṭuka* gruel,' made ready of his own accord *tila* seeds, and rice and beans ; and kept them indoors ; and cooked them indoors of his own accord, and offered them to the Blessed One. The Buddha disapproved of it, not because he questioned the medical efficacy of the gruel but because he thought that the practice of cooking indoors etc. could adversely affect the goodwill of his *saṃgha* : people would suspect the austerity of the monks. As he put it, 'This will not redound, Ānanda, to the conversion of the unconverted.'[319]

The venerable Sāriputta once suffered from fever and required lotus stalks of various kinds as medicine. When he told this to venerable Moggallāna, the latter rushed to the Mandākinī lake, where a certain Nāga collected for the monk the lotus stalks required. Then the venerable Mahā Moggallāna presented those edible stalks of the lotuses to the venerable Sāriputta. And the fever abated on the venerable Sāriputta when he had eaten the edible stalks of the lotuses.

A certain *bhikkhu* was suffering from fistula and a physician named Ākāsagotta lanced it. The Buddha disapproved of it and said, "How can this foolish fellow, oh *bhikkhu*-s, allow a surgical operation to be performed in that part of his body ? The skin there, oh *bhikkhu*-s, is tender, the wound

317. *Mahāvagga* viii.1.30-3. 318. *Ib.* vi.24-5. 319. *Ib.* vi.17.1-3

is difficult to treat, the knife is difficult to guide. This will not redound, oh *bhikkhu*-s, to the conversion of the unconverted."

In Benares a devout laywoman called Suppiyā went from monastery to monastery and from cell to cell enquiring : 'Who is sick, venerable sirs ? For whom and what shall I procure ?' At that time a certain monk had taken a purgative. He said, 'I have taken a purgative sister, and I want some broth.' The killing of cattle being interdicted that day, Suppiyā could not obtain meat for preparing broth. So she cut a piece of flesh from her thigh, got the broth of it prepared by the maidservant and sent it to the monk. The Buddha cured her miraculously no doubt, but he got extremely annoyed with the monk : 'How can you, oh foolish one, eat meat without having enquired what it is ? It is human flesh, oh foolish one, which you have eaten.' And he addressed the *bhikkhu*-s saying, 'There are, oh *bhikkhu*-s, believing pious people who give up even their own flesh. Let no one, oh *bhikkhu*-s, eat man's flesh. He who does, commits a grave offence. And let not one, oh *bhikkhu*-s, eat meat without having enquired what it is'... In the same account the Buddha prohibits—though prompted mainly by considerations affecting the prestige of the *saṃgha* —the eating of flesh of elephant, horse, dog, serpent, lion, tiger, panther, bear and hyena.

These are about the only prohibitions of the Buddha positively enjoined by him. The medical compilations—though nowhere prescribing human flesh—do prescribe the flesh of all other known species of animals for various medical purposes. The Buddha himself is led to prohibit certain varieties of meat by obvious extra-medical considerations. There is the risk of public criticism and gossip about the monks if they take all these. This makes the problem of the use of flesh a rather tricky one for the Buddha. The way in which he solves it shows what we call adjustment-politics these days. Thus he says, "Let no one, oh *bhikkhu*-s, knowingly eat meat of an animal killed for that purpose...I prescribed, oh *bhikkhu*-s, that fish is pure to you in three cases : if you do not see, if you have not

heard, if you do not suspect that it has been caught specially to be given to you."[320] So there is nothing against the use of meat and fish as such. Only the monks have to remain ignorant about the way in which these are procured by others who offer these to them.

But let us leave the question of Buddhist ethics and return to some other data contained in the *Vinaya-piṭaka* throwing light on our understanding of the history of Indian medicine. In the section on medicament of the Mahāvagga just reviewed, we see a very wide range of substances prescribed as medicines for various diseases. But who prescribes these medicines ? Though the text sometimes gives the apparent impression that the Buddha himself prescribes the medicines, there is no reason to take the suggestion on its face value. The Buddha is not a physician. Even assuming he has some kind of working knowledge of medicine, it can only be derivative. Besides, the text does not necessarily specify the nature of the disease for which the drugs are required, frequently using the vague expression like : 'Now at that time the *bhikkhu*-s who were sick had the need of fruits as medicine.' Nor does it always try to be exhaustive about the list of things coming under the general category of the substance approved as medicine ; it uses expressions like 'and whatsoever other fruits etc. are used for medicine'. Evidently, there is some practising physician on whose prescriptions the Buddha relies.

22. LEGEND OF JĪVAKA

Who then is this physician ? The Mahāvagga of the *Vinaya-piṭaka* wants us to be clear about him. We are told of Jīvaka—supposed to be the most renowned doctor and surgeon of Buddhist India—looking after the medical requirements of the *saṃgha* with the Buddha at its head. We are

320. *Ib.* vi.32. 14.

told also the life-history of this physician, certain features of which appear to be interesting. Here is a summary of it.[321]

There was a famous prostitute called Ambapālikā at Vaisālī (Vesali) who charged fifty coins for one night and thus contributed to the prosperity of Vaisālī. A merchant of Rājagṛha (Rājagaha), impressed by the affluence of Vaisālī and convinced of Ambapālī being a source of it, advised king Bimbisāra to instal a similar prostitute at Rājagṛha. A beautiful girl called Sālavatī was installed as the prostitute at Rājagṛha and she charged one hundred coins for one night. In the course of time, she conceived and gave birth to a boy. She got her maid-servant to throw away the boy on a dust-heap. It so happened that a royal prince Abhaya—probably a son of king Bimbisāra—while passing that area saw crows gathering round something. Finding that it was a boy and was still alive, Abhaya took the boy to the palace and asked the nurses to look after him. 'Because (Abhaya's attendants told about this boy) "He is alive (*jīvati*)", they gave him the name of Jīvaka; because he had been caused to be nourished by the royal prince (*kumārena posāpito*), they gave him the name Komārabhacca. On growing up, Jīvaka learnt that his mother was unknown, and though Abhaya was kind enough to be paternal to him, he was not his actual father.

Jīvaka thought, 'In these royal families it is not easy to find one's livelihood without knowing an art. What if I were to learn an art.' At that time there lived at Takkasilā (Taxila) a world-renowned physician. Jīvaka, without telling Abhaya, set out for Takkasilā. Reaching there, he went to the physician and said, 'I wish to learn your art, doctor.' The doctor accepted him as a pupil. After studying for seven years under him, he told the physician, 'I learn much, doctor, and I learn easily; I understand well and do not forget what I have learnt. I have now studied seven years, and I do not see the end of this art. When shall I see the end of this art ?' The teacher said, 'Very well, my dear Jīvaka, take this spade and seek round about

321. *Ib.* viii.1.

Takkasilā a *yojana* (roughly nine miles) on every side, and whatever you see which is not medicinal, bring it to me.'

Jīvaka accepted this order, took a spade, and went around about Takkasilā a *yojana* on every side; but he did not see anything that was not medicinal. Then he went to the physician and said, 'I have been seeking, doctor, all around Takkasilā a *yojana* on every side, but I have not seen anything that is not medicinal.' The physician said, 'You have done your learning, my good Jīvaka, this will do for acquiring your livelihood.'

The text goes on to describe how, after thus qualifying himself for the profession, Jīvaka performed wonderful medical and surgical feats and worked his way up to become the royal physician of Magadha.

The above seems to be the original nucleus of the life-history of Jīvaka, to which the later Buddhists add much.[322] The *Bower MS* claims to retain an original formula of Jīvaka[323] and even some late medical texts associate Jīvaka's name with some formulas, though perhaps for the purpose of getting these formulas passed as authentic.[324] But certain features of the original nucleus of Jīvaka's life as found in the Mahāvagga are of much interest for us. First, Jīvaka is not at all a high-born person—neither a Brahmin nor a Kṣatriya—but simply the son of a prostitute abandoned as undesirable. In spite of the liberating influence of the Buddha for medical science, even the early Buddhist sources do not tell us of a real highborn person going in for medical practice. Is it because of the persistence of the Brahmanical contempt for medicine ? The Buddha sees no doubt the obvious use of medicine for the monks belonging to his order. During his life-time, however, the influence of his teachings remain restricted to an extremely narrow circle. It is too early for these teachings to effect any fundamental change in the general ideological climate even in those parts of the country where he preaches, which seem to remain still largely under the influence of Brahmanical ideology unfavourable for the cultivation of medical knowledge. In any case, according

322. Mukhopadhyaya HIM iii.685 ff. 323. *Ib.* iii.682.
324. *Ib.* iii.683f.

to the Mahāvagga, Jīvaka is attracted by the fame of a physician at distant Taxila, to whom he goes for medical training, apparently because he is aware of none near about worth going to for the purpose. And Taxila—the capital of Gandhāra—is not favourably looked at by Brahmanical orthodoxy. "The more orthodox *brahmans* treated this region as impure since it had come under Persian domination."[325]

But the most interesting point about the life of Jīvaka as told by the Mahāvagga is something else. It is the way in which the text describes the completion of his medical studies. His teacher wants him to comb an area centering Taxila with one *yojana* as radius to find out those things that have no medical use. Jīvaka returns to report that he fails to find anything like that. In other words, he finds everything with some medical use or nothing with no medical use whatsoever. When Jīvaka says this, his teacher is convinced of the profoundity of his medical knowledge and allows him to go in for medical practice.

This is striking. It cannot but be reminiscent of a fundamental principle of rational therapeutics, which the *Caraka-saṃhitā* formulates as: *na-anauṣadhaṃ kiṃcit*—"there is nothing in nature which is without any medical relevance".

We have already seen how this formulation is arrived at in ancient Indian medicine.[326] For the present our point is that since it is characteristic of the system of rational medicine, and since the Mahāvagga relies on it to describe the fullness of medical knowledge attained by Jīvaka, we are to admit that the rational system of medicine is pre-supposed by the early Buddhist tradition. In other words, we have in this a confirmation of what we have been trying to argue : Indian medicine takes the step from magico-religious therapeutics to rational therapeutics sometime before the Buddha.

23. MEDICINE AND KARMA : MILINDAPANHA

The Buddha sums up his teachings in the form of four pro-

325. Thapar 59. 326. see *supra* p. 62-4.

positions concerning universal suffering and the way out of it. These are the four noble truths. Kern observes, "It is not difficult to see that these four *satya*-s (truths) are nothing else but the four cardinal articles of Indian medical science, applied to the spritual healing of mankind."[327] The Buddha's formulation of the principle of universal causation is called *pratītya-samutpāda.* Kern comments that it "stands to the four *satya*-s in the same relation as pathology to the whole system of medical science." He refers to a passage of the *Lalitavistara* to show that the Buddhists themselves are not unaware of the Buddha's tendency to formulate his own teachings on the medical model.

Much about the *Lalitavistara,* however, is of doubtful authority. Though originally an old life-story of the Buddha, it is completely rewritten by the later Buddhists who call themselves the followers of Mahāyāna, interested in obliterating the memory of the historical Buddha. But we need not depend on this work alone to see how the Buddha presumably follows the model of medical science to formulate his views. The suggestion comes down from an earlier period. This is evidenced by the work *Milindapañha* of circa first century A.D. The early Buddhists attach great importance to it. Buddhaghoṣa, the commentator of the Pali canons, claims that it "contains unimpeachable authority, on a level with the canonical texts."[328] In this text, the Buddhist sage Nāgasena, while explaining the Buddha's teachings to the Greek king Milinda (Menandros), persistently draws on the analogy of the physician and surgeon curing the sick. His teachings are like the healing agents and surgical skill. Such an analogy cannot be used by one without pronounced enthusiasm for medicine.

Bnt the *Milindapañha* has for us a greater importance than this. The enthusiasm for medicine leads the monk to face a crucial question, which is not squarely faced even by the medical compilations. How are the fundamental assump-

327. Kern 46-7.
328. Winternitz ii.176. cf. Rhys Davids in SBE xxxv. intro. p. xiv.

tions of the physicians related to the law of *karma*? We have suggested that the medical compilations are really indifferent to it. Some of the things said in these amount to the rejection of *karma*-law, though by implication. The special interest of the *Milindapañha* is that it raises the question in so many words and makes Nāgasena argue that the causes of diseases are exempted from the law of *karma*. Medicine and *karma*, in short, do not go together.

We shall first quote passages from the text showing the enthusiasm for medicine. These have the additional interest of indicating the stage of development reached by Indian medicine sometime before the first century A.D. We shall next see how it raises and answers the question concerning medicine and *karma*.

"—And what, venerable Nāgasena, is the antidote bazaar of the Blessed One, the Buddha?

—Certain drugs, O king, have been made known by the Blessed One; drugs by which the Blessed One delivers the whole world of gods and men from the poison of evil dispositions. And what are these drugs? The four Noble Truths made known by the Blessed One, that is to say, the truth as to sorrow, and the truth as to the origin of sorrow, and the truth as to the cessation of sorrow, and the truth as to that path which leads to the cessation of sorrow. And whosoever, longing for the highest insight, hears this doctrine of the four truths, they are set quite free from rebirth, they are set quite free from old age, they are set quite free from death, they are set quite free from grief, lamentation, pain, sorrow and despair. And this, O king, is what is called The Blessed One's bazaar of antidotes."[329]

The text quotes an ancient Buddhist verse to show that all this is based on authentic tradition:

"Of all the drugs, in all the world,
The antidotes of poison dire,

329. *Milinda*. v.10. SBE xxxvi. 217.

Not one equals that Doctrine sweet.
Drink that, O brethren. Drink and live."[330]

The analogy is further elaborated in the text :

"—And what, venerable Nāgasena, is the medicine bazaar of the Blessed One, the Buddha ?
—Certain medicines, O king, have been made known by the Blessed One, medicines by which he cures the whole world of gods and men. And they are these : 'The four Means of keeping oneself ready and mindful, and the fourfold Great Struggle ...and the Noble Eightfold Path'. By these medicines the Blessed One purges men of wrong views, purges them of low aspirations, purges them of evil speaking, purges them of evil deeds, purges them of evil modes of livelihood, purges them of wrong endeavours, purges them of evil thoughts, purges them of erroneous meditation; and he gives emetics to the vomitting up of lusts, and of malice, and of dullness, and of doubt, and of self-righteousness, and of sloth of body and inertness of mind, and of shamelessness and hardness of heart, and of all evil. And this, O king, is what is called 'The Blessed One's bazaar of medicine".[331]

Ancient Buddhist verses are quoted again to show the authentic tradition on which is based this comparison of the Buddha's teaching to medicine :

"Of all the medicines found in all the world,
Many in number, various in their powers.
Not one equals this medicine of the Truth.
Drink that, O brethren. Drink, and drinking live !
For having drunk that medicine of the Truth,
Ye shall have passed beyond old age and death.
And—evil, lusts, and *karma* rooted out—
Thoughtful and seeing, ye shall be at rest".[332]

Those interested in the doctrinal aspect of what is referred to here as the medicine of truth—"the four means of keeping

330. *Ib.* SBE xxxvi. 218.
331. *Ib.* v.11. SBE xxxvi. 218.
332. *Ib.* SBE xxxvi. 218-9.

oneself ready and mindful" etc.—are referred to the note of Rhys Davids on the *Mahā-parinibbāna-sutta*.[333] In the passage above, what is interesting also from the medical point of view is the use—figurative though—of purgation and emetics, which are of well-known importance in Indian medicine.

Apparently, the *Milindapañha* uses the analogy of medicine not without some knowledge of it. The Indian doctors think that since purgation weakens the body, its use needs to be followed up by certain tonics or roborants, or, as the *Caraka-saṃhitā* puts it, "by a diet including ghee, meat-juice, milk, palatable soups" etc.[334] While using the medical analogy for the Buddha's teaching, the *Milindapañha* also takes note of this. Explaining the need of "self-control as regards the stomach" for gaining "a clear insight into the Four Truths" the venerable Nāgasena says :

"Just, O King, as it is desirable that a sick man to whom an emetic, or a purge, or a clyster has been administered, should be treated with a tonic ; just so, O King, should the man who is full of evil, and who has not perceived the Four Truths, adopt the practice of restraint in the matter of eating."[335]

Explaining the technique of Tathāgata, viz. "first by discourse on almsgiving to make the hearts of the hearers inclined towards it, and then afterwards to urge them to righteousness", Nāgasena says :

"It is as when a physician first causes his patients to drink oil for four or five days in order to strengthen them, and to soften their bodies ; and then afterwards administers a purge. The supporters of the faith, O king, the lordly givers, have their hearts thus softened, made tender, affected. Thereby do they cross over to the further shore of the ocean of transmigration by the aid of the boat of their gifts, by the support of the causeway of their gifts."[336]

To make intelligible the considerations because of which the Buddha allows Devadatta to enter the order with full

333. SBE xi.62-3 notes.
334. *Caraka-saṃhitā* i.16.22.
335. *Milinda.* iv.5.7. SBE xxxvi.7.
336. *Ib.* iv.5.29. SBE xxxvi.33.

knowledge that being thus admitted Devadatta is going to cause schism within the order and thus suffer its consequences, Nāgasena depends on the analogy of the wisdom of the doctors and surgeons :

"As a clever physician and surgeon, O king, would make a grievous sickness light by the aid of a powerful medicinal drug, just so did the Blessed One, in his knowledge of the right means to an end, admit Devadatta to the Order and thus make his grievous pain light by the aid of the medicine of the Dhamma, strong by the power of mercy."[337]

Again—and this time going into some details of the surgeon's technique—

"—Suppose in treating a wound full of matter and blood, in whose grievous hollow the weapon which caused it remained, which stank of putrid flesh, and was made worse by the pain that varied with constantly changing symptoms, by variations in temperature, and by the union of the three morbid matters,—windy, bilious and phlegmatic—an able physician and surgeon were to anoint it with a rough, sharp, bitter, stinging ointment, to the end that the inflammation should be allayed. And when the inflammation had gone down, and the wound had become sweet, suppose he were then to cut into it with a lancet, and burn it with caustic. And when he had cauterised it, suppose he were to prescribe an alkaline wash, and anoint it with some drug to the end that the wound might heal up, and the sick man recover his health—now tell me, O king, would it be out of cruelty that the surgeon thus smeared with ointment, and cut with the lancet, and cauterised with the stick of caustic, and administered a salty wash ?

—Certainly not, Sir ; it would be with kindness in his heart, and intent on the man's weal, that he would do all those things.

—And the feelings of pain produced by his efforts to

337. *Ib.* iv.1.30. SBE xxxv.168.

heal—would not the surgeon be guilty of any wrong in respect of them?
—How so? Acting with kind intent and for the man's weal, how could he therein incur a wrong? It is of heavenly bliss rather that that kindly surgeon would be worthy.
—Just so, great king, was it in his mercy that the Blessed One admitted Devadatta, to the end to release him from pain.
—Hear another and further reason, O king, why the Blessed One did so. Suppose a man had been pierced by a thorn. And another man with kindly intent and for his good were to cut round the place with another sharp thorn or with a lancet, and the blood flowing the while, were to extract that thorn. Now would it be out of cruelty that he acted so?
—Certainly not, Sir. For he acted with kindly intent, and for the man's good. And if he had not done so the man might have died, or might have suffered such pain that he would have been nigh to death.
—Just even so, great king, was it of his mercy that the Tathāgata admitted Devadatta, to the end to release him of his pain."[338]

A number of expressions in the quotation above have obvious medical interest. The doctors and surgeons of whom Nāgasena speaks—and whose techniques serve to illustrate the procedure of the Buddha—are obviously advanced representatives of Indian medicine.

Explaining the efficacy of reasoning up to the time of the attainment of *nirvāṇa*, the venerable Nāgasena says:

"—It is like a physician who goes to the sick man with the five kinds of drugs made from medicinal roots, and grinding them up, gives him to drink, and thereby his sickness passes away. Would the physician in that case think of making any further use of medicine?
—Certainly not, the medicine has done its work. What would be the use of any more?

338 *Ib.* iv.1.33. SBE xxxv.168-9.

—Just so, O king, when sinfulness is destroyed by the five moral powers, then reasoning ceases, but knowledge remains."[339]

Even when the Buddha feels obliged to use apparently stern words, he acts like the physician using strong and painful drugs :

"—Now would a physician, O king, administer pleasant things as a medicine in a case where all the morbid matters of body were affected and the whole frame was disorganised and full of disease ?

—No. Wishing to put an end to the disease he would give sharp and scarifying drugs.

—In the same way, O king, the Tathāgata bestows admonition for the sake of suppressing all the diseases of sin. And the words of the Tathāgata, even when stern, soften men and make them tender. Just as hot water, O king, softens and makes tender anything capable of being softened, so are the words of the Tathāgata, even when stern, yet as full of benefit, and as full of pity as the words of a father would be to his children. Just, O king, as the drinking of evil-smelling decoctions, the swallowing of nasty drugs, destroys the weaknesses of men's bodies, so are the words of the Tathāgata, even when stern, bringers of advantage and laden with pity. And just, O king, as a ball of cotton falling on a man raises no bruise, so do the words of the Tathāgata, even when stern, do no harm."[340]

Nirvāṇa itself is compared to medicine :

"—Venerable Nāgasena, those three qualities of medicine, which you said were inherent in *nirvāṇa*—which are they ?

—As medicine, O king, is the refuge of beings tormented by poison, so is *nirvāṇa* the refuge of beings tormented with the poison of evil dispositions. This is the first quality of medicine inherent in *nirvāṇa*. And again, O king, as medicine puts an end to diseases, so does *nirvāṇa* put an end to griefs. This is the second quality of medicine inherent in *nirvāṇa*. And again, O king, as medicine is ambrosia, so also is *nirvāṇa* ambrosia. This is the third quality of medicine inherent in *nirvāṇa*."[341]

339. *Ib.* ii.2.3. SBE xxxv.69.
340. *Ib.* iv.3.18. SBE xxxv. 240-41.
341. *Ib.* iv.8.68. SBE xxxvi.190.

If, therefore, people "admitted into a religion so pure, they give it up and return again to the lower stage", the Tathāgata is not to be blamed for it—no more than the wise physician from whom some foolish patients run away :

"—Or suppose, O king, that a man afflicted with dire disease should visit a physician skilled in diagnosis, knowing an efficacious and lasting method of cure, and that that man should then not let himself be treated, but go back again as ill as before. Now therein whom would the people blame, the sick man or the doctor ?

—It is the sick man, Sir, they would blame, saying :' How could the physician, of himself, cure this man who would not let himself be treated ? What fault is there in the doctor ?

—Just so, O king, has the Tathāgata deposited in the casket of his religion the ambrosial medicine (of *nirvāṇa*) which is able to suppress all the sickness of sin, thinking : 'May all those of conscious sentient beings who are afflicted with the sickness of sin drink of this ambrosia, and so allay all their disease.' And if any one, without drinking the ambrosia, should turn back again with the evil still within him, and return once more to the lower state, it is he whom the people will blame."[342]

Naturally, the Buddha considers renunciation specially necessary for those who are spiritually backward rather than for those who have already made sufficient spiritual progress, just as the physician's skill is specially required for the sick and not for those that are already enjoying good health :

"—Or suppose, O king, that a physician, a true follower of the sages of old, one who carries (in his memory) the ancient traditions and verses, a practical man, skilled in diagnosis, and master of an efficacious and lasting system of treatment, who had collected (from medicinal herbs) a medicine able to cure every disease, were to have it announced : 'Let none, Sirs, who are ill come to visit me ! Let the healthy and the strong visit me !' Now, would then, O king, those men free from illness

342. *Ib.* iv.6.25. SBE xxxvi.64-5.

and disease, healthy and jubilant, get what they wanted from the physician ?

—Certainly not, Sir ! What men want from a physician, that would they have already obtained otherwise. What use would the physician be to them ?

—Just so, O king, had the Tathāgata ordained that only those laymen who had already entered the first stage of the Excellent Way should be received into the Order, then would the advantages they seek in it have been already gained elsewhere. Of what use would the renunciation be to them then ?"[343]

The preparation for Arhatship specially by keeping the vows is like the training required to be a surgeon :

"And there is no realisation of Arhatship, O king, in one single life, without a previous keeping of the vows. Only on the utmost zeal and the most devoted practice of righteousness, and with the aid of a suitable teacher, is the realisation of Arhatship attained. Just, O king, as a doctor or surgeon first procures for himself a teacher, either by the payment of a fee or by the performance of service, and then thoroughly trains himself in holding the lancet, in cutting, marking, or piercing with it, in extracting darts, in cleansing wounds, in causing them to dry up, in the application of ointments, in the administration of emetics and purges and oily enemas, and only when he has thus gone through training, served his apprenticeship, made himself skilful, does he visit the sick to heal them."[344]

More passages like these may be quoted from the *Milindapañha*. But that is not necessary. The great esteem with which the physicians and surgeons are viewed in early Buddhism is already obvious.

This must have meant a great liberating influence for medical science specially after the Brahmanical hostility to it. However, all this cannot but raise a serious question. Do the early Buddhists endorse the system of rational medicine without being aware of its theoretical requirements ? These requirements include a naturalistic understanding of disease

343. *Ib.* iv.6.28. SBE xxxvi.67-8. 344. *Ib.* vi.10. SBE xxxvi.254-5.

as well as cure—an understanding hardly compatible with the law of *karma*. The question is important, because though the Buddha is free from many features of Brahmanical orthodoxy strongly opposed to medical science, he retains the theory of transmigration and *karma* and somehow reconciles it with his denial of the soul (*anātma-vāda*). How then can he be so earnest about rational medicine, as the *Vinaya-piṭaka* and *Milindapañha* want us to believe ?

It seems that the *Vinaya-piṭaka* evades this question. But the venerable Nāgasena apparently realises that philosophically speaking the question is too serious to be simply evaded. Therefore, he raises the question and wants to answer it. What is remarkable about his answer is that as far as sickness is concerned, suffering is not necessarily due to *karma*. One of the best examples of this is a passage of the *Milindapañha* which we quote here at some length.

"—Venerable Nāgasena, had the Blessed One, when he became a Buddha, burnt out all evil in himself, or was there still some evil remaining in him ?
—He had burnt out all evil. There was none left.
—But how, Sir ? Did not the Tathāgata get hurt his body ?
—Yes, O king. At Rājagaha a splinter of rock pierced his foot, and once he suffered from dysentery, and once when the morbid matters of his body were disturbed a purge was administered to him, and once when he was troubled with wind the Elder who waited on him (that is Ānanda) gave him hot water.
—Then, Sir, if the Tathāgata, on his becoming a Buddha, has destroyed all evil in himself—this other statement that his foot was pierced by a splinter, that he had dysentery, and so on, must be false. But if they are true, then he cannot have been free from evil, for there is no pain without *karma*. All pain has its root in *karma*, it is on account of *karma* that suffering arises...
—No, O king. It is not all suffering that has its root in *karma*. There are eight causes by which sufferings arise, by which many beings suffer pain. And what are the eight ?

Superabundance of wind, and of bile, and of phlegm, the union of these morbid matters, variations in temperature, the avoiding of dissimilarities, external agency and *karma*. From each of these there are some sufferings that arise, and these are the eight causes by which many beings suffer pain. And therein whosoever maintains that it is *karma* that injures beings, and besides it there is no other reason for pain, his proposition is false.

—But, Sir, all the other seven kinds of pain have each of them also *karma* as its origin, for they are all produced by *karma*.

—If, O king, all diseases were really derived from *karma* then there would be no characteristic marks by which they could be distinguished one from the other. When the wind is disturbed, it is so in one or other of ten ways—by cold, or by heat, or by hunger, or by thirst, or by over-eating, or by standing too long, or by over-exertion, or by walking too fast, or by medical treatment, or as the result of *karma*. Of these ten, nine do not act in a past life or in a future life, but in one's present existence. Therefore it is not right to say that all pain is due to *karma*. When the bile. O king, is deranged, it is so in one or other of three ways—by cold, or by heat or by improper food. When the phlegm is disturbed it is so by cold, or by heat or by food and drink. When either of these three morbid matters are disturbed or mixed, it brings about its own special distinctive pain. Then there are the special pains arising from variations in temperature, avoidance of dissimilarities, and external agency. And there is the act that has *karma* as its fruit, and the pain so brought about arising from the act done. So what arises as the fruit of *karma* is much less than that which arises from other causes...But although the Blessed One never suffered pain which was the result of his own *karma*...yet he suffered pain from each of the other six causes...There come to this body of ours, O king, compounded of the four elements (viz. water, fire, air and earth), sensations desirable and the reverse, pleasant and unpleasant. Suppose, O king, a clod of earth were to be thrown into the air, and to fall again on to the ground. Would it be in consequence of any act it had previously done that it would so fall ?

—No, Sir. There is no reason in the broad earth by which it could experience the result of an act either good or evil...
—Well, O king, the Tathāgata should be regarded as the broad earth. And as the clod would fall on it irrespective of any act done by it, so also was it irrespective of any act done by him that that splinter of rock fell upon his foot. Again, O king, men tear up and plough the earth. But is that a result of any act previously done ?
—Certainly not, Sir.
—Just so with the falling of that splinter. And the dysentery which attacked him was in the same way the result of no previous act, it arose from the union of the three morbid matters. And whatsoever bodily disease fell upon him, that had its origin, not in *karma*, but in one or the other six causes referred to...So, O king, it is not all pain that is the result of *karma*."[345]

How far such an amendment of the law of *karma* can smoothly agree with the fundamental teachings of the Buddha is a different question. In the formula of causal sequence explaining the origin of suffering—a formula without which early Buddhism is inconceivable—"*saṃskāra*-s or mental dispositions as a result of the non-realisation of the truth (*avidyā*) are shown as the immediately preceding cause of the present existence. The *saṃskāra*-s represent the accumulated karmic effects left in a being before his rebirth. The results of acts done in the previous life are transmitted to that consciousness which brings about re-existence and this transmission takes place ceaselessly and uninterruptedly like water flowing in a stream."[346] In the Abhidharma literature that grows sometimes after the Buddha, the law of *karma* assumes the most fantastic importance. As Vallee Poussin puts it : "It is in Buddhism, however, that the doctrine of *karma* reaches its climax and assumes a unique character. Elsewhere it meets with correctives ; there are counter actions to human acts ; but in Buddhism it may be said that *karma* explains every-

345. *Ib.* iv. .62-66. SBE xxxv 190-5.   346. N Dutt EMB 240.

thing, or ought to. Other Indian philosophies admit the existence of a self-existent soul or an ego. In Buddhist philosophy the ego is merely a collection of various elements constantly renewed, which are combined into a pseudo-personality only as the result of action. It has therefore been asserted that Buddhism does not admit transmigration : when a being dies, a new being is born and inherits his *karma* ; what transmigrates is not a person, but his *karma*... To Buddhists destiny is merely 'past acts.' The earlier Indian belief was that the world was re-created by Brahmā at the end of each period of chaos. Buddhists hold that the whole universe with all its variety is the work of acts. But by 'acts' we must here understand the combined mass of the acts of all beings ; e.g. at the beginning of the re-creation of the world there rise in the vast void of the universe 'winds born of acts' which heap up the clouds from which the creative rain will pour, and so on."[347]

The Buddha's teacings, in short, are inconceivable without the admission of the omnipotence of the law of *karma.* Are we then to think that venerable Nāgasena goes against these teachings in so far as he proposes to amend the law of *karma* in defence of rational therapeutics ? Such an assumption is not without its own difficulties, because the defence of rational therapeutics is also something which Nāgasena inherits from the Buddha himself. In other words, if there is any crisis caused by this enthusiasm for rational therapeutics in Nāgasena's otherwise strong commitment to the law of *karma,* its roots are to be traced to the position of the Buddha himself, i.e. as far as we can understand it on the basis of the *Vinaya-piṭaka.* The amendment of the law of *karma* required by rational therapeutics does not agree with his fumdamental teachings concerning *karma.*

We have perhaps in this the clue to the rather limited impact on the history of Indian medicine of the liberating influence of the Buddha's support of it. The main theoretical sanction for the hierarchical society is received from the

347. Vallee Poussin in ERE vii.674.

law of *karma*. With all his distaste and disapproval of hierarchical iniquities that we read in the canonical works of the Buddhists, the prophet's approval of—and even great zeals for—the law of *karma* enables the hierarchical iniquities to enjoy the strongest ideological sanction. This seems to be one of the main reasons for the failure of the followers of the Buddha to evolve a system of legal codes replacing those that are embodied in the *dharmaśāstra*-s. Even areas ruled by kings with Buddhist creed are not known to have any alternative system of codified laws. Ths Buddha's support of the physicians and surgeons does not seem to have more than a short-lived effect. In spite of this support, the counter-ideology embodied in the *dharmaśāstra*-s continues to have its destructive influence for science in general and for medicine in particular.

In such an atmosphere what can the scientists do? What they are actually found to do is to try to save their science by offering ransoms to the counter-ideology. We see this quite clearly if for the time being we leave medicine and see the strange fate of Brahmagupta, the greatest Indian astronomer-mathematician. The way in which he tries to protect science in the hostile intellectual climate dominated by the counter-ideology throws a flood of light on the inner contradictions of the medical compilations in the form in which these reach us.

24. SCIENCE AND POLITICAL SAFETY : BRAHMAGUPTA

A brief account of how the Indian scientists seek political safety for their science by conceding to the counter-ideology is given by the visiting scientist al-Biruni.

al-Biruni, as it is well-known, acquires profound knowledge of Indian science, specially astronomy. On the basis of this he analyses an apparently curious fact about the writings of the great Indian astronomers like Varāhamihira (*c*. 6th century A.D.) and Brahmagupta (*c*. 7th-8th centuries A.D.). These astronomers—specially Brahmagupta, whom al-

Biruni considers to be the greatest astronomer-mathematician — are fully aware of the real natural causes of the eclipses. They are also aware that these causes as determined by their observations and calculations, flatly go against the Brahmanical myths, according to which the demon in the form of mere "Head" (Rāhu) gobbles up the sun and the moon thereby causing their eclipses. What is very strange about these scientists, however, is that in spite of all these they show the tendency of surrender to these myths and try to justify the priestly rituals depending on the myths.

Observes al-Biruni, "It is perfectly known to the Hindu astronomers that the moon is eclipsed by the shadow of the earth, and the sun is eclipsed by the moon. Hereon they have based their computations in the astronomical handbooks and other works."[348]

In substantiation of this, al-Biruni quotes extensively from the *Bṛhat-saṃhitā* of Varāhamihira. In the passage quoted, Varāhamihira first refers to the myth sanctioned by Brahmanical orthodoxy, according to which the eclipse is due to the Head (Rāhu) devouring the sun. Varāhamihira next shows why such a myth is *prima facie* absurd and what is the natural cause explaining the eclipse. It is therefore extremely strange that he adds to all this a rationale of the Brahmanical rituals sanctioned precisely by the myth Varāhamihira so vigorously rejects. In the *Bṛhat-saṃhitā* he says, "Some scholars maintain that the Head belonged to the Daityas, and that his mother was Siṃhikā. After the angels had fetched the *amṛta* (nectar) out of the ocean, they asked Viṣṇu to distribute it among them. When he did so, the Head also came, resembling the angels in shape, and associated himself with them. When Viṣṇu handed him a portion of the *amṛta*, he took and drank it. But then Viṣṇu perceived who it was, hit him with his round *cakra*, and cut off his head. However, the head remained alive on account of the *amṛta* in its mouth, whilst the body died, since it had not yet partaken of the *amṛta* ..Then the Head, humbling itself, spoke : 'For what sin has this been done ?' Thereupon he was recom-

348. Sachau ii.107.

pensed by being raised to heaven and by being made one of its inhabitants."[349]

After having finished relating these absurdities, Varāhamihira comes out with his own understanding of the eclipse and says : "An eclipse of the moon is her entering the shadow of the earth, and an eclipse of the sun consists in this that the moon covers and hides the sun from us. Therefore, the lunar eclipse will never revolve from the west nor the solar eclipse from the east. A long shadow stretches away from the earth, in like manner as the shadow of a tree. When the moon has only little latitude, standing in the seventh sign of its distance from the sun, and if it does not stand too far north or south, in that case the moon enters the shadow of the earth and is eclipsed thereby. The first contact takes place on the side of the east. When the sun is reached by the moon from the west the moon covers the sun as if a portion of a cloud covered him. The amount of the covering differs in different regions. Because that which covers the moon is large, her light wanes when one-half of it is eclipsed; and because that which covers the sun is not large, the rays are powerful notwithstanding the eclipse."[350]

"After having described", says al-Biruni, "the nature of the two eclipses as *he* understands them, he complains of those who do not know this". The main point of the common people objecting to this naturalistic understanding of eclipse, according to Varāhamihira is : "If the Head did not appear and did not bring about the eclipse, the Brahmins would not at that moment undergo an obligatory washing."[351] To this, Varāhamihira comes out with a very strange answer. He says,

"The reason of this is that the Head humiliated itself after it had been cut off, and received from (god) Brahman a portion of the offering which the Brahmins offer to the fire at the moment of an eclipse. Therefore, he is near the spot of the eclipse, searching for his portion. Therefore, at that time people mention him frequently, and consider him as the cause of the eclipse, although he has nothing whatsoever to do with it ; for the eclipse depends entirely upon the uniformity and the declination of the orbit of the moon."[352]

349. *Ib.* 350. *Ib.* ii.108-9. 351. *Ib.* ii.109. 352. *Ib*

Remarkable indeed is this statement of Varāhamihira, because it is clear that he does not believe in the Head at all. Evidently, he is aware that though the Head does not exist, the pressure of Brahmanical orthodoxy on the scientists does. It is being much too daring to question the Brahmanical ritual connected with the myth of the Head. The scientist is thus obliged to invent some justification for the ritual, and hence by implication also for the Head. Comments al-Biruni, "The latter words of Varāhamihira, who in passages quoted previously, has already revealed himself to us as a man who accurately knows the shape of the world, are odd and surprising. However, he seems sometimes to side with the Brahmins, to whom he belonged, and from whom he could not separate himself. Still he does not deserve to be blamed, as on the whole, his foot stands firmly on the basis of the truth, and he clearly speaks out the truth."[353]

But the situation seems to change by the time of Brahmagupta. The custodians of the counter-ideology apparently feel that only a perfunctory justification of the Brahmanical rituals connected with the Head is not enough for the interest they represent. A natural explanation of the eclipse destroys the very foundation of the professional practices of the priests, namely the myth about the Head, in spite of the formal admission of the efficacy of the rituals. In other words, science is required to offer far greater ransom to regimented religion for the purpose of evading the censorship of the law-givers. The scientist is too dangerous for the society so long as he does not pledge full loyalty to the views required by the vested interests. It is presumably because of such a situation that the greatest astronomer-mathematician, Brahmagupta, opens his treatise *Brahma-siddhānta* with the following declaration, which, as a scientist, he fully knows to be false.

"Some people think," says Brahmagupta, "that the eclipse is not caused by the Head. This, however, is a foolish idea, for it is he in fact who eclipses, and the generality of the inhabitants of the world say that it is the Head who eclipses. The

353. *Ib.* ii.110.

Veda, which is the word of god from the mouth of Brahman, says that the Head eclipses, likewise the book *smṛti* composed by Manu, and the *saṃhitā* composed by Gārga, the son of Brahman. On the contrary, Varāhamihira, Śrīsheṇa, Āryabhaṭa and Viṣṇucandra maintain that the eclipse is not caused by the Head, but by the moon and the shadow of the earth, in direct opposition to all and from enmity against the just mentioned dogma. For if the Head does not cause the eclipse, all the usages of the Brahmins which they practise at the moment of an eclipse, viz. their rubbing themselves with warm oil, and other works of prescribed worship, would be illusory and not be rewarded by heavenly bliss. If a man declares these things to be illusory, he stands outside of the generally acknowledged dogma, and that is not allowed. Manu says in the *smṛti* : When the Head keeps the sun or moon in eclipse, all waters on earth become pure(?), and in purity like the water of the Ganges. The Veda says : The Head is the son of a woman of the daughters of the Daityas...Therefore, people practise the well-known works of piety, and therefore those authors must cease to oppose the generality, for everything which is in the Veda, *smṛti* and *saṃhitā* is true."[354]

Pledging loyalty to the counter-ideology cannot possibly be more abject or more loud. But is this all that Brahmagupta has really to say ? If so, his name would have sunk into the limbo of oblivion, like those of the Inquisitors of Galileo. The fact on the contrary is that he is remembered in history as one of the greatest scientists of India. There is thus something extremely peculiar about the way in which he opens his treatise. The loyalty to the counter-ideology is pledged under duress. The visiting scientist al-Biruni notes this in his own way. His illuminating observations need to be quoted here at some length.

Says al-Biruni, "But look, for instance at Brahmagupta, who is certainly the most distinguished of their astronomers. For as he was one of the Brahmins who read in their Purāṇas that the sun is lower than the moon, and who

354. *Ib.* ii.110-11.

therefore requires a Head biting the sun in order that he should be eclipsed, he shirks the truth and lends his support to imposture, if he did not—and this we think by no means impossible - from intense disgust at them, speak as he spoke simply in order to mock them, or under the compulsion of some mental derangement, like a man whom death is about to rob of his consciousness."[355] This is illustrated by al-Biruni with the passage we have just quoted. But al-Biruni does not stop with this quotation. He wants also to understand the peculiar tragedy of Brahmagupta. Here are his observations: "...We shall not argue with him, but only whisper into his ears: If people must under circumstances give up opposing the religious codes (as seems to be your case), why then do you order people to be pious if you forget to be so yourself? Why do you, after having spoken such words, then begin to calculate the diameter of the moon in order to explain her eclipsing the sun, and the diameter of the shadow of the earth in order to explain its eclipsing the moon? Why do you compute both eclipses in agreement with the theory of those heretics, and not according to the views of those with whom you think it proper to agree? ...I, for my part, am inclined to the belief that that which made Brahmagupta speak the above-mentioned words (which involve a sin against conscience) was something of a calamitous fate, like that of Socrates, which had befallen him, notwithstanding the abundance of his knowledge and the sharpness of his intellect, and notwithstanding his extreme youth at the time. For he wrote the *Brahma-siddhānta* when he was only thirty years of age. If this indeed is his excuse, we accept it and herewith drop the matter."[356]

If the calamitous fate befalls the astronomers, the physicians and surgeons are not expected to escape it. They also can hope to save their science only by paying very heavy ransom to the counter-ideology. This leads us to see how the medical compilations assume the form of being a strange amalgam of science and its opposite.

355. *Ib.* ii.110. 356. *Ib.* ii.111-12.

BOOK II

THE SOURCE-BOOKS RE-EXAMINED

CHAPTER 3

CARAKA-SAṂHITĀ : A CRITICAL ANALYSIS

1. PRELIMINARY REMARKS

The form in which the source-books of Indian medicine reaches us is apparently very strange. It is the form of a confused assemblage of science and its opposite. But we need not feel bewildered by it after what we have just discussed about the *Brahma-siddhānta*. When the demand for counter-ideology on the part of the vested interests becomes oppressive, the scientists are left mainly with two alternatives. They have either to flout openly the ideological requirements of the vested interests, or they have to make a show of apparent piety as a protective crust for science. Galileo faces inquisition. But his friend Descartes makes a pilgrimage of gratitude to the shrine of the Virgin of Loreto for his scientific discovery. It is true that the inquisition does not destroy Galileo and his science. But this is largely because a new class is already consolidating itself in society, and it sees in science not only the prospect of its own profit but also a weapon suited for its struggle against the nobility and the Church. The rising middle class "for the development of its industrial production, required a science which ascertained the physical properties of natural objects and the modes of action of the forces of nature. Now up to then science had but been the humble handmaid of the Church, had not been allowed to overstep the limits of faith, and for that reason had been no science at all. Science rebelled against the Church ; the bourgeoisie could not do without science, and, therefore, had to join in the rebellion."[1]

Brahmagupta sees no rising social power to take up the

1. Engels SUS 16.

cause of his science. How else can he hope to save his science but making a grand show of piety? Indian astronomy, it is true, has its beginnings in the priestly circles as part of their scriptural lore. What Brahmagupta wants to defend, however, is not this ancient quasi-theological astronomy. His observations and calculations lead him to an astronomy which is much too naturalistic to tolerate the scriptures, and hence to be tolerated by the custodians of the scriptural tradition —the law-givers. So Brahmagupta has to seek political safety by conceding to the counter-ideology, howsoever flatly it may go against science thus saved.

If such be the fate awaiting astronomy with its scriptural lineage, the position of the doctors and surgeons must have been all the more desperate. Medicine aspires to be too secular, too earthly, too naturalistic and much too committed to the democratic norm to be tolerated by the custodians of the counter-ideology. Even the great Vedic gods are not spared censure because of their medical career and even the *Atharvaveda*—in spite of being a Veda—is eventually despised. How then can the doctors save their science?

The medical compilations as we have these enable us to answer this question. The physicians try to save their science by concealing it under a heap of intellectual debris. These are of the nature of random concessions to the counter-ideology —to its metaphysics, its morals, its mythology, in short, to any sundry superstition satisfying it.

Apparently there were among the physicians also conscientious scientists protesting against the intrusion of all these into their science. Their efforts to resist the counter-ideology do not succeed. The general historical conditions ensuring this success do not exist in ancient and medieval India. Still, what they in fact achieve is not without importance for the historian of Indian science. When the medical works get invaded by the counter-ideology, they can at least remind the doctors of the criterion by which to differentiate between what is intrinsic and what is extrinsic to medical science among the assorted ideas and attitudes somehow or other embodied in the medical compilations. This criterion remains formulated

within the *Caraka-saṃhitā* itself. The historian of Indian science is thus not obliged to go outside the text to sort out science from superstition in it. Since the doctrinal content of the *Suśruta-saṃhitā* is substantially the same as that of the *Caraka-saṃhitā* and since moreover the former also reaches us in the apparently quaint form of a jumble of science and superstition, an analysis of the *Caraka-saṃhitā* in this line seems to do away with the need of a separate assessment of the *Suśruta-saṃhitā*. It is adequate for our present purpose to concentrate only on the *Caraka-saṃhitā*.

2. CRITERION FOR IDENTIFYING WHAT IS EXTRINSIC TO MEDICINE

To begin with, let us recall the account of a medical colloquium we have already noted.[2] In this, Vāryovida expounds an anthropomorphic view of Wind as the ultimate principle governing everything. But another medical authority, Marīci, leaps to the attack : "Even if all these were true, what is the point in saying or knowing these in the medical discipline ? Whatever is said here must be said strictly in accordance with the requirements of medicine." Thus, in short, what interests the physician is medicine and medicine alone. Anything without strict relevance for medicine is to be rejected as extrinsic to medical science, irrespective of the question of its truth or otherwise from the non-medical standpoint.

We have in this bold protest of Marīci against Vāryovida's metaphysics a formulation of the criterion by which to judge what is intrinsic and what is extrinsic to medical science in our extant medical compilations. Lest this should be ignored as being based on a mere isolated statement of an individual doctor, we shall note here how his point is being variously reiterated in the *Caraka-saṃhitā*.

One peculiarity of the *Caraka-saṃhitā* is that it is already

2. see *supra* p. 265.

aware of considerable differences of opinion among different medical authorities.[3] It gives us accounts of debates among physicians, in which they sometimes express themselves strongly against each other. Such debates are considered highly desirable for the enrichment of medical knowledge. The *Caraka-saṃhitā* also mentions theoretical conclusions characteristic of the other systems of medicine, i.e. differing from the one supposed to be codified in the text.[4] Apparently, in the ancient period, medical science is yet to be tongue-tied by authority, clash of views having much to contribute to its growth.

We are further told : "among the people are current various treatises on medicine".[5] Hence, after making up the mind for going in for medical studies, one has first of all to select the right treatise for oneself.[6] Thus is the need felt for describing the model medical treatise. That the extant *Caraka-saṃhitā* grossly deviates from this model, is only a sad commentary on the work of its later redactors and editors, who may be deviating from the model under duress. But there is no reason to take a light view of the model itself, for apart from its intrinsic worth, the presumption is that it comes down from the comparatively ancient authorities themselves, the other alternative being to imagine that the later redactors or editors of the text themselves build up a model only to flout it rather grossly.

For our present purpose, the most relevant point about this model is that a medical treatise must confine itself exclusively to topics having strict relevance for medical science, that it must not contain anything extrinsic to or irrelevant for its subject-matter, or, as the text puts it, it must not mix up *(asaṃkula)* its actual theme with anything else.[7]

This chapter of the *Caraka-saṃhitā* which formulates the model of medical treatise, finds it necessary to go also into much detail of the methodology of medical discussion. In the course of this, it explains certain fallacies resulting from the violation of the norm of right discussion. Two of these are

3. *Caraka-saṃhitā* iii.5.4 ; iii.5.13 ; vi. 3.65-6 ; vi.3.117 ; vi 3.192 ; vi.14.6; vi.14.33 ; etc.

4. *Ib.* iii.8.37. 5. *Ib.* iii.8.3. 6. *Ib.* 7. *Ib.*

specially relevant for our present purpose. One is called *adhika* or redundance, a form of which is irrelevance. The other is a particular form of the fallacy of contradiction or *viruddha*. Both these fallacies are included in the final list of what is technically called *nigrahasthāna* or "point of defeat".[8] One committing any such fallacy forfeits one's right to medical discussion.

What, then, are the two fallacies ?

The fallacy of irrelevance (*adhika* in one form) is illustrated as follows : *yat vā āyurvede bhāṣyamāṇe bārhaspatyam auśanasam anyat vā yat kiñcit apratisaṃbandhārtham ucyate*—"Thus, for example, while discussing medical science, to quote the authority of Bṛhaspati, Uśanas, or to cite anything which is not strictly relevant to the subject-matter of medicine."[9] Uśanas—and also Bṛhaspati in this particular context—are supposed to be renowned authorities of political science and jurisprudence in ancient India. But though considered authoritative in their own fields, it is only by committing the fallacy of irrelevance that one can quote them in a medical discussion, for the simple reason that such a discussion is supposed to be confined to medicine and medicine alone. A statement, even though authenticated by some otherwise exalted persons, is not to be allowed in medicine unless it has positive medical significance. Let Uśanas and Bṛhaspati enjoy their authority in their own fields. Since, however, what they say is medically irrelevant, a doctor is not allowed to cite their authority in the medical discussion. Such a dictum can be formulated only by those who have strict fidelity to their own science. In this we can see the true spirit of the real representatives of ancient Indian medicine.

The fallacy of contradiction or *viruddha*, as the *Caraka-saṃhitā* wants us to understand it, has three forms, resulting from a statement contradicting any of the following : 1) the instance (*dṛṣṭānta*) cited in favour of it, 2) the conclusion (*siddhānta*) which it intends to establish and 3) the specific context (*samaya*) in which it is made : *viruddhaṃ nāma dṛṣṭānta-siddhānta-samayaiḥ viruddham*.[10] Of these three, we are

8. *Ib.* iii.8.65. 9. *Ib.* iii.8.54. 10. *Ib.*

specially interested here in the last, viz. the fallacy of contradiction resulting from a statement going against its own context or *samaya*. The *Caraka-saṃhitā* wants to be quite specific about it :

samayaḥ punaḥ tridhā bhavati. yathā : āyurvaidika-samayaḥ, yājñika-samayaḥ, mokṣa-śāstrika-smayaḥ ca iti.

tatra āyurvaidika-samayaḥ : catuṣpādaṃ bheṣajam iti.

yājñika-samayaḥ : ālabhyā yajamānaiḥ paśavaiti.

mokṣa-śāstrika-samayaḥ : sarvabhūteṣu ahiṃsā iti.

tatra sva-samaya-viparītam ucyamānaṃ viruddhaṃ bhavati.[11]

"Context, again, is threefold. These are : (1) the context of medical science, (2) the context of ritual sacrifice and (3) the context of the doctrine of liberation.

"Among these, the context of medical science. (A statement relevant for it, is :) 'Medical science depends on four factors (viz. the physician, substances used as drugs etc., nursing attendant and the patient).

"The context of ritual sacrifice. (A statement relevant for it is :) 'The sacrificial animal is to be slaughtered by the *yajamāna* (or one who gets the sacrifice performed).

"The context of the doctrine of liberation. (A statement relevant for it is :) '(One must practise) non-violence to all living beings.'

"A statement becomes contradictory when it is made in violation of its own specific context."

The examples are carefully chosen. It is essential for the sacrificial context to state that the sacrificer must slaughter the sacrificial animal. It is equally essential for the context of the doctrine of liberation to state that one must practise total non-violence. Thus the essential proposition of one context, if allowed to be mentioned in that of another, results in flat contradiction. However, the physician is interested in neither of these two contexts. He is interested only in safeguarding the integrity of his science. For this purpose, he is formulating the general rule that in medical science no proposition is to be allowed which does not belong to the strictly medical context.

11. *Ib.*

Still the way in which the fallacy of contradiction resulting from the confusion of contexts, as illustrated in the text, has its own interest. It is the way in which the physician is trying to defend the integrity of his science against the possible intrusion of it by the counter-ideology. No proposition belonging to the context of ritual or that of *mokṣa* is to be allowed in medicine. But these two contexts of ritual and liberation represent the two branches of Vedic orthodoxy, generally called its *karma-kāṇḍa* and *jñāna-kāṇḍa.* Sacrificial ritual is the be all and end all of the former, liberation that of the latter. To resist the invasion of medical science by Vedic orthodoxy, the physicians require the general rule of excluding the possible confusion of contexts. In substantiation of the rule, they remind the doctors of the two main branches of Vedic orthodoxy and of the fatal consequence of confusing these with medicine. Thus the way in which the physicians illustrate this amounts to the assertion that, for the sake of self-consistency, medical science has to avoid Vedic orthodoxy as a whole. Significantly, apart from the context of strict medical science, the text speaks only of two other contexts—the ritual-context and liberation-context, i.e. *karma-kāṇḍa* and *jñāna-kāṇḍa.* Propositions belonging to either of these two is not to be allowed in medicine.

The physicians seem to reiterate the dictum, in the course of which they find it necessary also to come out with a defence of the essentially rationalist attitude. As it is put in the *Caraka-saṃhitā* :

"In a colloquium (*vāda,* usually meaning 'debate') of the physicians, they must move strictly within the limits of medical science and must not digress to anything else (*vādastu khalu bhiṣajaṃ pravartamāno pravarteta āyurveda eva, na anyatra*). The propositions and counter-propositions on all the topics covered by it are to be clearly and cogently worked out. Every statement made must be based on a clear and careful understanding of these. Medical discussion is to allow no proposition which is irrelevant, unauthoritative, uninvestigated, without any practical significance (*asādhaka*) confused and without a general

applicability (*avyāpaka*). Every proposition must be substantiated by reason (*sarvaṃ hetumat brūyāt*). Only those propositions that are substantiated by reason and are untainted by any other consideration, prove useful for therapeutic purposes, because such propositions alone help the intellect to be broadened (*praśasta-buddhi-vardhakatvāt*) and only uninhibited intellect (*anupahata-buddhi*) leads to the successful culmination of an undertaking,"[12]

3. THE SPECIFIC MEDICAL CONTEXT

Before we proceed to analyse the extant *Caraka-saṃhitā*, we have to be clear about one point. What exactly is the nature of their own specific context—that of the medical science—the integrity of which the physicians want to preserve and therefore the possible confusion of which with anything else they want to avoid ?

This is briefly answered in the passage just quoted : *catuṣpādaṃ bheṣajam iti*, literally "medicine is four-legged". In other words, there are four and only four factors on which medicine depends. This view of medicine as depending on four factors retains considerable importance in the *Caraka-saṃhitā*. Two chapters of the book discussing the general principles (*Sūtra-sthāna*) are designed for the specific purpose of explaining it.[13]

We have already reviewed these two chapters[14] in our discussion of the "defence of medicine." We shall recapitulate their main points here, because of their bearing on the critical examination of the extant *Caraka-saṃhitā*.

The four factors on which medicine depends—and which therefore are alone relevant for the discussion of medical science —are : 1) the physician, 2) substances, 3) nurse and 4) patient. The first chapter on these, called the "brief account of the four-factor view of medicine" enumerates the essential qualities of these four factors, the combined operation of which ensures

12. *Ib.* iii.8.67. 13. *Ib.* i.9. & 10. 14. see *supre* pp. 188-201.

therapeutic success. The next chapter, called the "major account of the four-factor" view of medicine, is designed to defend the intrinsic efficacy of medical science. It is argued that a curable disease cannot but be cured in the presence of all these four factors with the four marks of excellence of each.

There is thus nothing vague about what is meant by the specific medical context. It is the context that allows the discussion of four and only four factors : the doctor, substances (drugs or diets), nurse and the patient. Therefore, according to the criterion embodied in the *Caraka-saṃhitā* itself, any discussion about anything else is redundant from the medical viewpoint. Such redundance has by all means to be avoided, because, if allowed in the medical context proper, it results only in flat contradiction.

Only one clarification needs to be added to all this. When the physicians discuss the patient, they have no scope to take notice of any indwelling spirit or soul. Even though something like that is real, the physician with his substances and nursing attendant has hardly any scope to do anything about it. In fact, the view of the soul belongs to another context altogether, which is the context of the doctrine of liberation. In other words, that alone in which the physicians can possibly take an interest is the body or *śarīra* of the patient. The *Caraka-saṃhitā* wants to make this abundantly clear. We have already quoted same evidences of this.[15] The point being crucial for our subsequent discussion, we propose to add to these two more formulations of the *Caraka-saṃhitā* :

"Therefore, the intelligent man should specially devote himself to those endeavours which assure the well-being of the body. Verily, the body is the support of the man's well-being, since the man is established in the body. Leaving everything else, one should take care of the body, for in the absence of the body there is total extinction of all that characterises embodied beings."[16]

"The physician who understands the body in every respect

15. see *supra* pp. 151-53.

16. *Caraka-saṃhitā* ii.6.6-7. Tr. G.

and in its entirety and at all times, knows in its fullness Āyurveda, the source of happiness for the entire world."[17]

4 SALVATION SUPERIMPOSED ON HEALING

With the points just discussed, let us quote a part of a long discourse attributed to Ātreya in the extant *Caraka-saṃhitā* :

"Listen, oh Agniveśa ! To one who contemplates the whole world as being in himself and himself in the whole world, with equanimity, there is born the true understanding. Inasmuch as he regards the world as being in himself, he realises that the self, and none else, is the agent of pleasure and pain; and inasmuch as he realises the whole world, being of the nature of activity and yoked to motivating factors etc., is as his own self, he awakens the primary knowledge leading to final emancipation......

"The source of the world and of all affliction is action, while quietus comes from inaction. True understanding is that which arises from the judgment that action is pain and inaction is happiness...

"Action springs from behaviour impelled by delusion, desire and hate. Born of it are egoism, attachment, doubt, vain-glory, wrong identification, wrong judgment, absence of discrimination and the wrong means...

"Whatever action—mental, vocal or bodily—is not conducive to final emancipation, is called attachment; questioning such facts as the results of action, liberation and human survival after death, is called doubt. The notion, I am a unitary personality through all vissicitudes, I am the creator, I am perfect by nature, I am the unique conglomeration of the body, the senses the intelligence and recollection—this is vain-glory. The mother, father, brother, wife child, kinsman, friend, servant, etc. are mine and I am theirs—this is wrong identification. Erroneous

17. *Ib.* iv.6.19.

conception of what is enjoined and prohibited, the beneficial and the harmful, and the good and the evil, is wrong, judgment. The confounding of the knower and the non-knower the original and the modification, action and inaction, is absence of discrimination. ..

"Thus man, dispossessed of right understanding, resolution and recollection, and taken possession of by the ego and attached to action and given to doubt, his understanding clouded with conceit, and merging himself in his environment, with distorted vision, lacking discrimination and going astray, becomes the dwelling tree of all afflictions which have for their root-cause defects of the body and mind. In this manner, being borne about hither and thither by the evil forces of egoism etc., man is unable to transcend the vicious chain of causation, which indeed is the mainspring of all evil.

"Inaction, which breaks the chain of causation, is the ultimate dissolution. That is the highest, the final peace; that is the indestructible, that is Brahman and that is liberation. (*tat paraṃ praśāntaṃ, tat akṣaraṃ, tat brahma, sa mokṣaḥ*).

"We shall now describe the upward leading path of those who seek liberation. The seeker after final emancipation, who has seen the vanity of the world, should first make his approach to a teacher, whose teaching he should then put into practice. Thus he should tend the ceremonial fire, study the sacred lawbooks, understand their meaning and taking them for his guide should mould his conduct thereby (*dharmaśāstra-anugamanaṃ tadarthāvabodhaḥ tena avaṣṭṛmbhaḥt atra yathoktāḥ kriyāḥ*). He should seek the good and avoid the evil; he should eschew the company of the wicked, he should speak only that which is true, conducive to the good of all creatures, gentle, seasonable and well-considered...He should be unmoved by grief, depression, self-conceit, affliction, arrogance, greed, attachment, envy, fear, anger, etc. ...He should dread procrastination and should never feel disinclined to practise *yoga*...He should bend all his powers of understanding, resolution and recollection towards final emancipation...He should regard all activity as tainted with evil, and hold the conviction that in the renunciation of all things is true happiness. This is the path leading to final

emancipation ; straying from this, one is bound. Thus have we described the upward steps.

"By these purifying means, the impure mind is cleansed, just as a looking glass is cleansed by being rubbed with such things as oil, cloth and brush...

"That pure, true understanding, which accrues to the man of purified intellect, is variously understood as learning, achievement, judgment, genius, comprehension and knowledge. By this, he breaks open the exceedingly strong citadel of the darkness of the great illusion. By this, realising the true nature of all things, he becomes desireless...by this he finally attains Brahman, the eternal, the undecaying, the unagitated and the imperishable. That is regarded as the true science, attainment, psychic state, intelligence, knowledge and wisdom...

"Witnessing all existences in all their conditions and at all times, he who has become Brahman, the pure one, cannot come into contact with anything.

"In the absence of the cognising instruments, no characteristics can be observed in the self. Hence by the disjunction of all instruments, he is said to be liberated.

"The peace of the liberated is spoken of by such synonyms as sinlessness, passionlessness, tranquility, the supreme, the imperishable, the changeless, immortality, Brahman and the final rest (*vipāpaṃ virajaḥ śāntaṃ paramākṣaram avyayam / amṛtaṃ brahma nirvāṇaṃ paryāyaiḥ śāntiḥ ucyate*).

"O, gentle one ! this is that unique knowledge, having known which the sages, freed from doubt, entered the great peace, cast off delusion, passion and desire."[18]

We are not concerned here with the intrinsic worth of the view expressed in the passage. It is well-known that there are other works primarily interested in the views, as there are metaphysicians and others debating over these. What concerns us here is only a simple question. It is about the frame of reference or context (*samaya*) to which the views belong. What, in the terminology of the doctors, is this context ? There is

18. *Ib.* iv.5.7-24. Tr. G.

only one answer to it. The context is that of liberation or *mokṣa*. According to the principles formulated by the physicians, therefore, this discussion—like many other similar discussions—cannot have a legitimate place in the medical work, notwithstanding the fact that these are actually found in one *Caraka-saṃhitā*.

Anything found in the medical compilation, therefore, cannot be taken on its face value, i,e. as indicative of the actual medical views. There are many ideas and attitudes which, though embodied in it, are really extrinsic to medicine. We have to ignore or reject these for the proper understanding of the real medical core of Āyurveda. At the same time, we can perhaps explain the fact of the presence of such alien elements in the source-books of Āyurveda. Though redundant to medicine, their presence in the medical corpus is not purposeless, for they are presumably of the nature of ransom offered to the counter-ideology without which it is not easy for the doctors to save their science. This seems to be obvious from the exaggerated piety which our text wants to demonstrate—an exaggeration which reminds us of what is called "defence reaction" in contemporary psychology. Questioning the reality of the soul, *karma*, after-life, and liberation—Ātreya is made to declare—is just heresy or *nāstikya*. And heresy is a sin —in fact the gravest sin conceivable : *pātakebhyaḥ paraṃ ca etat pātakaṃ nāstika-grahaḥ.*[19] This is precisely what the law-givers also declare. How, then, can the law-givers continue to have contempt for the doctor when the doctor agrees to demonstrate such abject servility to them.

This may be a way of saving science no doubt. But this is also a way of allowing science to be crippled by its opposite.

5. METAPHYSICAL CORRELATES

According to the more conscientious scientists among the

19. *Ib.* i.11.15.

ancient doctors, propositions belonging to the contexts of ritual and liberation are not only irrelevant for medicine but are moreover contradictory to it. An important reason for this seems to be that they realise that a proposition belonging to one context is not to be viewed in its isolation. It is inextricably related to various other propositions of the same context. A concession to an alien proposition amounts also to the concession to its various correlates, and therefore ultimately to a system of ideas and attitudes going against the fundamentals of medical science. We shall briefly discuss here only one example of this from the *Caraka-saṃhitā*.

One of the admirable achievements of ancient Indian medicine is the methodology of science. We have already noted what makes it so remarkable specially in the ancient Indian context. While direct evidence or perception is strongly censured by the spokesmen of the counter-ideology, the physicians feel that empirical data constitute the first and absolutely minimum precondition for science. The system of rational medicine is impossible without admitting the primary importance of direct experience or perception. However, this is clearly incompatible with the admission of the soul, its transmigration as determined by the law of *karma* and its liberation. In other words, any concession to the metaphysics of the soul requires the rejection—or at least vary serious amendment—of the methodology of science, specially its demand for the primacy of perception or direct knowledge. The reason for this is obvious. Soul, re-birth, etc. are not proved by perception. The best proofs for these are the scriptural declarations.

Significantly, a discussion of our *Caraka-saṃhitā* designed primarily to prove the soul and its rebirth, opens with the statement that there is some doubt about it. "Why is this doubt ? This is answered as follows. There are some who attach greatest importance to direct knowledge or perception. Since, however, after-life is not directly known or perceived, they commit themselves to its denial. There are others, again, who, because of their loyalty to the scriptures, admit after-life" : *kutaḥ punaḥ saṃśaya iti ? ucyate : santi hi*

eke pratyakṣa-parāḥ parokṣatvāt punarbhavasya nāstikyam āśritāḥ. santi ca āgamapratyayāt eva punarbhavam icchanti.[20]

The point is beautifully put. There is doubt about after-life because there are two views about it wanting to negate each other. One of these views, seeking sanction from perception, denies after-life. The other view, seeking its sanction from the scriptures, accepts after-life.

What, then, is to be done in defence of the latter? It is to censure direct evidence and eulogise the scriptural declarations. This is exactly the procedure followed by our *Caraka-saṃhitā* for the discussion in substantiation of after-life. Reckless to the requirements of science, it passes stricture on direct knowledge and glorifies scriptures. It urges one to give up the heretical view (*nāstikya-buddhi*) denying after-life, because, as it says, "the range of perception is after all limited, while that which is beyond perception is quite vast" : *pratyakṣaṃ hi alpam* ; *analpam apratyakṣam asti.*[21] Compared to the knowledge based on direct evidence, knowledge based on the scriptures is infinitely superior, because the scriptures are infallible. As it is put in the *Caraka-saṃhitā*, "Now, the dignity of authoritative testimony belongs in the first place to the Vedas. It has been enlarged to include all such other writings as are not against the trend of the Vedas and have been compiled by men with the critical faculty and are for the good of the world and have been accepted by men of good will everywhere. These two constitute authoritative testimony. Form such authoritative testimony we learn that charity, austerities, sacrifices, truthfulness, non-violence, celibacy (*brahmacarya*) are the means of attaining exaltation and final emancipation. Further, exemption from recurrent birth is not promised by the promulgators of the scriptural texts to any but those that have won release from spiritual failings, etc. Therefore the believers in scriptural texts should consider rebirth as established truth in conformity to the teachings of the great sages of yore as well as of those that preceded them, all of whom were

20. *Ib.* i.11.6. 21. *Ib.* i.11.7.

free from fear, desire, hate, greed, delusion and pride, devoted to spiritual knowledge, trustworthy, skilled in religious observances, unclouded of spirit and understanding, and possessed of divine insight."[22]

To this proof for rebirth or after-life, the discussion under consideration adds further evidences alleged to be based on perception and inference. But the importance of these other considerations are evidently secondary, or, as the Vedāntists put it, these other evidences are legitimate only to the extent to which they follow the scriptural one.[23] Thus, for example, perception allowed to have an independent efficacy of its own, leads to the denial of after-life. As following the footsteps of the scriptures, it may provide one with some additional considerations for the existence of after-life.

But all this may be Vedānta and not medicine. A proposition belonging to the context of the doctrine of liberation, if allowed in the medical context, has the tendency of dragging in also a number of collateral considerations, eventually ruining the very foundation of medical science. It is thus not merely the possibility of redundance against which the conscientious scientist in the *Caraka-saṃhitā* protests; he protests also against the danger of contradiction resulting from the confusion of the medical context with the context of the metaphysics of liberation or with the context of ritual discussion. We shall quote here another passage of the *Caraka-saṃhitā* to see how grotesquely obvious this contradiction actually becomes.

In the discussion just referred to in defence of a proposition belonging to the context of the metaphysics of soul and its salvation, the spokesman of medicine is made to censure direct evidence or perception. Elsewhere, basically the same requirement leads him to declare :

"Passion which is of the nature both of desire and hate, proceeds from pleasure and pain; again, passion is said to be the originator of pleasure and pain.

"Desire it is, that acquires the apparatus of sensation; if there

22. *Ib.* i.11.27-29. 23. Śaṃkara on *Br. Sū.* ii.1.11.

is no apparatus, there is no contact; and if unaffected by contact, one does not experience sensations.

"The apparatus of sensation is the mind and the body together with the sense-organs...

"Both in *yoga* and final liberation (*mokṣa*) there is no existence of sensation; in final liberation there is absolute cessation, while *yoga* leads to that liberation.

"From the contact of the self, the senses, the mind and the sense-objects, arise pleasure and pain; these two cease to be, as a result of inaction of the mind which is firmly fixed in the self. Then, while embodied it acquires the psychic powers; and such a state, the Ṛṣi-s who are conversant with *yoga*, know to be as *yoga*.

"The entering into other bodies, telepathy, the doing of things according to one's own will, clairvoyance, clairaudience, omniscience, effulgence, vanishing from sight at will—these eight are said to be the sovereign powers of the yogis. All this accrues from the concentration of the pure mind.

"The final liberation without a return is said to be the dissolution of all ties resulting from the cessation of passion and delusion, and the wearing away of the influence of powerful past actions.

"From the accession of the pure understanding all these proceed; the right seeking of the company of the good; the total avoidance of the wicked, continence and abstinence and various austerities, the study of the sacred scriptures, meditation, love of solitude; aversion to sense-pleasures, perseverance in the path of liberation, supreme determination, the non-beginning of actions and the complete annihilation of those already done, the desire to quit the world, humility, dreading attachment, the fixing of the mind and understanding in the self and the investigation of the true nature of things—all this procures from the recollection of the true nature of the self.

"The true recollection comes from the acts beginning with the right seeking of the company of the good and ending with supeme determination. Having recollected in mind the true nature of all things, man gets relieved from suffering.

"The methods of inducing recollection are said to be rightly

recollecting the circumstances and the appearance by comparison and contrast, by concentration of the mind, by practice, by the acquisition of knowledge and by re-hearing.

"Recollection is so-called because by dwelling upon what was seen, heard or otherwise experienced, it collects again the fullness of past experience in the mind.

"This is the only road, consisting of the power of true recollection which has been indicated for final liberation by those who have attained liberation. Those who set out on this road do not return. This road has been described by the yogis as the path of *yoga*, and by the liberated seers who have had all the knowledge of philosophy, as the path of liberation.

"All that results from causes is pain-giving, is other than the self, is transitory. Such is not an offspring of the self; yet the self-sense obtains there so long as the true understanding is not born; but the sage knowing 'I am not this and this is not mine', transcends everything.

"In that final renunciation all sensations together with their root, cause, as also cogitation, contemplation and resolution, come to an absolute termination.

"Thereafter the individual self having become one with the universal self is no longer seen as particularised, being rid of all qualities. He has no longer any distinguishing mark. The knowers of Brahman alone have knowledge of this; the ignorant cannot understand it."[24]

Whatever may be the intrinsic worth of the views expressed in this, one point about it seems to be crystal clear. It means the total wreck of all the theoretical achievements of ancient Indian medicine and the replacement of these by religion and metaphysics. The apprehension of contradiction resulting from the mixing up of the contexts for discussion is fully corroborated by the actual contents of the extant *Caraka-saṃhitā*.

6. FOOD : THE EXTRA-MEDICAL *VS* MEDICAL VIEW

Ideas and attitudes belonging to non-medical contexts, if

24. *Caraka-saṃhitā* iv. 1. 134-155. Tr. G.

allowed in medical discussions, lead to contradiction. The *Caraka-saṃhitā*, in the form in which it reaches us, is full of such contradictions. These range from metaphysical views to practical precepts. We shall mention here a prominent example of the latter.

In full conformity with what is called the orthodox view of life, the text expresses great religious reverence for the cow. But it also shows a frankly medical interest in the animal, prescribing its flesh as diet or drug. In short, it wants people to worship the cow as well as to eat it to satisfy the purely physical requirements.

Nothing is more pleasing than the former for the orthodox religious sentiment. However, though most revolting for the same, the latter also remains embodied in the same text obviously as a feature of the medical conscience.

Let us first see how many times the *Caraka-saṃhitā* recommends the worship of the cow.

Describing the codes of right conduct in generat, Ātreya is made to declare : "Thus, for example, one should worship the gods, cows, Brahmins, preceptors, elders, adepts and teachers".[25] The same discourse naturally prohibits hostility in any form against such holy objects as the Brahmins and cows : *na brāhmaṇān parivadet, na gavāṃ daṇḍa udyacchet* —"Nothing adverse is to be said against the Brahmin, the staff must not be raised against the cow."[26] Elsewhere is said, "Following are the premonitory symptoms of that form of exogenous insanity which is caused by the anger of gods etc. : the proclivity to hurt the gods, cows, Brahmins and ascetics."[27] Before attending the lectures on medicine, the student must perform certain auspicious acts like offering worship to the gods, sages, cows, Brahmins, preceptors, elders, adepts and teachers.[28] The medical student really serious of success, prosperity and fame as a physician—and moreover of heaven after death—must have in mind the welfare of all creatures, beginning of course with the holiest of them, namely

25. *Caraka-saṃhitā* i.8.18. 26. *Ib.* i.8.25. 27. *Ib.* ii.7.11.
28. *Ib.* iii.3.7.

the cows and Brahmins.[29] If the physician meets on his way to the patient's place certain holy things, he may feel confident that it is indicative of good prognosis: the list of such holy things include the bull and a person of the high caste.[30] Also indicative of good prognosis is the patient's dream of holy things like the moon, sun, fire, high-caste person, cow, king etc.[31] Before entering the chamber for rejuvenation treatment, the patient must spiritually fortify himself by first worshipping the gods and the persons of higher castes (*dvijāti*) and then by the holy circumambulation of the gods, cows and Brahmins.[32] Among other things, what is supposed to cure the exogenous type of insanity is the worship of the gods, cows, Brahmins and *guru*-s.[33] As one of the purifying procedures to be observed before collecting the medical herbs is mentioned, *saṃpūjya devatā aśvinau go-brāhmaṇau ca* —"having worshipped the gods, the Aśvins, as well as the cows and Brahmins."[34]

These are only some examples of a purely religious interest in the cow which one frequently comes across in the *Caraka-saṃhitā*. Judged by these, the text is acceptable to the Brahmins who—reckless to the possibility of any adverse judgment on their own dignity—propagate the view that the cow is as holy as themselves. Strangely, however, the same text also shows a clearly medical interest in the same animal —i.e. an interest in its flesh etc. from the therapeutic point of view.

Let us first see a passage in which the two basically different interests are somehow mixed up. We shall next see some other examples in which the religious interest is summarily discarded in favour of a purely medical interest in the cow.

In the *Caraka-saṃhitā* we read a quaint account of the origin of diarrhoea. The account is frankly mythological and seems to have a bias in favour of the taboo on beef-eating. At the same time it shows a lurking interest in beef from the digestive point of view. Briefly, the account is as follows.[35]

29. *Ib.* iii.8.13. 30. *Ib.* v.12.71. 31. *Ib.* v.12.86. 32. *Ib.* vi.1A.23. 33. *Ib.* vi.9.94. 34. *Ib.* vii.1.10. 35. *Ib.* vi.19.4.

In the good old age (*ādikāla*, literally 'first age'), the animals were used in sacrificial rituals without being actually slaughtered. However, since the time of the sacrificial ritual performed by Dakṣa, the sons of Manu introduced the practice of the ritual slaughter of animals. Still later, when Pṛṣadhra performed the prolonged ritual (*dīrgha-satra*), the stock of other available animals got exhausted. Hence was introduced the practice of slaughtering even the cows. The sight of this made everybody sad. When the flesh of the cow thus killed was eaten, people got afflicted with diarrhoea. This was not merely because of the curse entailed (*aśasta-upayogāt*) but also because this flesh is heavy (*guru*), hot (*uṣṇa*), disagreeable (*asātmya*) and having an adverse effect on the digestive fire (*upahata-agnīnām*). Thus, diarrhoea first appeared from the time of the sacrificial ritual performed by Pṛṣadhra.

The mythology seems to be a concoction, because it has no basis in any well-known ancient source. But the more interesting thing about it is that it leaves a relevant question unanswered. Would there have been diarrhoea due to beef-eating had it not been heavy, hot and disagreeable to digestion ? The question is medical and from what is said in the account just quoted the answer to it is apparently in the negative. This leads us to see another—and altogether different—aspect of the text, viz. the understanding of the cow and its flesh from the viewpoint of the genuine physicians, expressed by the same Ātreya who enthusiastically recommends the worship of the cow !

In Chapter 27 of the Sūtra-sthāna, the cow is found no longer in the venerable company of the gods and Brahmins, but where it actually belongs according to the general zoological understanding of the text. It is the class of animals called *prasaha*, i.e. those that grab and tear off their food. To this class belongs twentynine varieties of animals—cow, ass, mule, camel, horse, panther, lion, bear, monkey, wolf, tiger, hyena, cat, dog, crow, eagle, vulture etc.[36] The main theme of this chapter is dietetics, from the point of view of which it mentions

36. *Ib.* i.27.35-7.

the flesh of all these animals and also of a large variety of other animals belonging to other classes. These other classes are: *bhūmiśaya* or 'burrowing animals' (four varieties of pythons, hedgehog, musk shrew, frog, mongoose, porcupine, etc.—13 in all),[37] *anūpa* or 'animals of marshy and wet lands' (wild boar, yak, buffalo, rhinoceros, elephant, hog, etc.—9 in all),[38] *vāriśaya* or 'the aquatic animals' (tortoise, fish crab, crocodile, whale, etc.—10 in all);[39] *ambucarī* or 'acquatic birds' (swan, demoiselle crane, etc.—29 in all);,[40] *jāṅgala* or 'the herbivorous animals living in grass-lands or forests (different varieties of deer, etc.—17 in all),[41] *viṣkira* or 'the birds that scatter their food' (different varieties of quail, etc.—19 in all);[42] *pratuda* or 'the birds that peck and gobble their food' (30 varieties in all.)[43]

We have thus a list of 156 animals classified under eight main heads called *prasaha* etc. The food value of the cow's flesh is discussed in this chapter in two forms. First, as the general food value of the general class of animals to which the cow belongs. Secondly, as the specific food value of the specific variety of animal, though belonging to a general class.

The flesh of animals belonging to the five general classes called *prasaha*, *bhūmiśaya*, *anūpa* *vāriśaya* and *ambucarī* "are heavy, hot, unctuous, sweet and promotive of strength and plumpness. They are aphrodisiac and highly curative of *vāyu* and great provokers of *kapha* and *pitta*. They are wholesome to the persons who take daily exercise and whose digestive fire is strong."[44] Thus the flesh of the cow, as an animal belonging to the *prasaha* class, is understood to have certain general food values also possessed by other animals belonging to the same class—say, the ass, mule, camel, horse, monkey, vulture, owl, and so on.

But all this is not to be misunderstood. To the five broad classes of animals just mentioned belong ninety varieties of animals. The text is not so naive as to suggest that the

37. *Ib.* i.27.37-8. 38. *Ib.* i.27.39. 39. *Ib.* i.27.40-41. 40. *Ib.* i.27.41-4.
41. *Ib.* i.27.45-6. 42. *Ib.* i.27.47-9. 43. *Ib.* i.27.50-3.
44. *Ib.* i.27.56-8

flesh of all these animals have the same or identical food value. What is just quoted simply means that the flesh of all these animals have some very broad qualities in common. But the text immediately adds that it is not enough for the physician's purpose to know only these general qualities. "The general properties of fleshes having been stated, now we shall describe the specific qualities of flesh of some of these animals as they have special qualities."[45]

What, then, are the specific qualities of the cow's flesh? Ātreya answers : "The flesh of the cow is beneficial for those suffering from loss of flesh due to disorders caused by an excess of *vāyu,* rhinitis, irregular fever, dry cough, fatigue, and also in cases of excessive appetite resulting from hard manual work."[46]

For patients suffering from emaciation due to pectoral lesions is recommended barley-meal with either the milk or meat-juice of the cow, buffalo, horse, elephant and goat (*go-mahiṣī-aśva-nāga-ajaiḥ kṣīraiḥ māṃsarasaiḥ tathā*).[47] Some diseases are viewed as due to the excess of *vāyu* in the body and since the cow's flesh is considered greatly beneficial in disorders due to excess of *vāyu*[48], The meat-juice of the cow—like that of various other animals—is recommended as a cure for these. "The meat-juices of iguana, fox, cat, porcupine, camel, cow, tortoise and pangoline should be prepared like vegetables and cooked *śāli*-rice may be given with meat-juices for the relief of *vāyu.*"[49]

Since persons suffering from consumption are badly in need of adding flesh to their bodies and since the physicians think that the cow's flesh—like that of the other animals belonging to the *prasaha* class—is promotive of flesh and plumpness[50], they freely recommend it for the consumptive patients, along with a number of alternatives to it. "The flesh of peacock, partridge, cock, swan, hog, camel, ass, cow and buffalo are greatly promotive of flesh:" *barhi-*

45. *Ib.* i.27.63-4. 46. *Ib.* i 27.79-80. 47. *Ib.* vi.1183.
48. *Ib.* i.27.79. 49. *Ib.* vi.14.126-7. Tr. G. 50. *Ib.* i.27.56-7.

tittirī-dakṣāṇāṃ haṃsānāṃ śūkara-uṣṭrayoḥ/khara-go-mahiṣā-nāṃ ca māṃsaṃ māṃsakaraṃ param.[51]

To say all this in ancient India is risky. There is a a strong religious sentiment for the cow, and hence also a strong religious taboo against beef-eating. The origin of these may form the subject of serious socio-historical investigation. But the risk faced by the physicians is obvious. For the purpose of ruling the people effectively, the law-givers and statesmen found a cluster of superstitions extremely useful, which therefore they wanted systematically to enforce. The religious reverence for the cows and Brahmins belongs to this cluster. Here is how Kane compiles some of the evidences for this: "Manu xi.79 says that if one sacrifices one's life in defence of brāhmaṇas and cows, one becomes free from the sin of even brāhmaṇa murder. Viṣṇu xvi. 18 declares that even an untouchable (*bāhya*) went to heaven by giving his life in defence of brāhmaṇas, cows, women, children... In Gautama ix.13-14, the cow is referred to as *devatā* (god). As early as 2nd century A.D., we have the collocation of the words *go-brāhmaṇa-hita* (the welfare of cows and brāhmaṇas) in an inscription of Rudradāman (Epigraphia Indica, vol. viii, p. 44). Vide *Gupta Inscriptions* p.89 (for *go-brāhmaṇa-purogābhyaḥ sarva-prajābhyaḥ*). These words also occur frequently in the *Rāmāyaṇa* (Bālakāṇḍa 26.5; Araṇya 23.28) and in the *Matsyapurāṇa* 104.16".[52]

Thus notwithstanding the systematic effort of the law-givers and politicians to boost veneration for the cow—to declare that slaughtering the cow is a sin causing the loss of caste[53] and therefore demanding a prolonged penance[54] —the genuine physicians in our medical compilation appear to remain unconcerned. What interests them is a different point altogether. It is only the food-value of the cow's flesh, like that of the flesh of various other animals, for they think that the most important factor determining health is food.

This being a fundamental proposition for the physician,

51. *Ib*. vi.8.158.
52. Kane ii.775.
53. Manu xi.60.
54. *Ib*. xi.109-117.

he has no scope to introduce any religious or other consideration into his view of food. As he puts it.

"Food is all of one kind, eatability being the common feature. But it is of two kinds as regards its source, one kind being inanimate and the other animate. It is also two-fold in respect of its action, consequent on its being either wholesome or unwholesome in effect. It is four-fold in respect of the modes of taking, namely to drink, suck, eat and lick. It is sixfold in respect of taste, because there are six categories of taste".[55]

In such a view of food, there is obviously no scope for the intrusion of any religious or extra-medical consideration. The only consideration that it allows is that of wholesomeness or otherwise of the food. Thus :

"Neither out of greed nor out of ignorance should one resort to dietary. Only after careful investigation should one eat what is wholesome, for the body is verily the product of the food one eats."[56]

The physician's view of food is summed up again in a recapitulatory verse :

"The body is the product of food, the disease born of food, the distincition of happiness and sorrow resulting from the distinction of wholesome and unwholesome diet..."[57]

7. MEDICAL ETHICS AND TRADITIONAL MORALITY

But there is a problem for the physician in recommending for the patients all sorts of flesh, their medical efficacy notwithstanding. He is fully aware of the possible strong disgust in the patient for at least some of these, provoked by the patient's religious, aesthetic or other sentiments. The revulsion for such flesh may be strong enough in the patient to lead him either to

55. *Caraka-saṃhitā* i.25.36. Tr. G.
56. *Ib.* i.38.41. Tr. G.
57. *Ib.* i.28.45. Tr. G.

stubbornly refuse these or even to vomit these out if forcibly administered. What, then, is to be done by the physician ?

The answer given in the Cikitsā-sthāna immediately before what is already quoted—i.e. the recommendation of the flesh of swan, hog, camel, ass, cow, buffalo, etc.—is remarkable. The physician as physician is interested only in one thing, and that is the cure of the patient. If, therefore, it is essential for the patient to eat some flesh, the physician has to work out certain tactical method by which to lead the patient to overcome his religious or aesthetic revulsion against these. When necessary, such a tactical method may include deliberate deception or sheer bluff. It is thus not any absolute fidelity to traditional morality that makes one a model physician. What makes one so is also the occasional capacity to lie—though obviously in the patient's interest.

The entire discussion of this in the Cikitsā-sthāna needs to be quoted here, for it has considerable theoretical interest for understanding the position of the real physician in the *Caraka-saṃhitā*. What concerns him is medicine and medicine alone. If therefore there is any direct clash between medicine and morality in its abstract sense, the physician as physician cannot help choosing the former. For him there is no clash between scruple and medicine, for the real scruple that he is aware of is that of curing the patient. As the *Caraka-saṃhitā* puts it :[58]

"For the emaciated consumptives continuing to lose flesh, the physician skilled in dietetics should prepare well-cooked dishes of meats of carnivorous animals. To the consumptives must be given the peacock's flesh and—in the name of the peacock's flesh—the flesh of vultures, owls and blue jays properly cooked in prescribed manner. In the name of partridge, give the flesh of crows; in the name of the snake-fish, give the flesh of snakes; in the name of intestines of fish, give fried earth-worms. In the name of rabbit-flesh, the physician may give dressed meats of fox, large mongoose, cat and jackal-cubs. For increasing the flesh in the consumptive patient, the flesh of lion, bear, hyena, tiger and similar carnivorous animals may be given in the name

58. *Ib.* vi.8.149-57.

of the flesh of deer. For promoting the flesh of the patient, the meats of elephant, rhinoceros and horse—well-seasoned with spices—should be given. The flesh of birds and animals that have grown plump on flesh diet is an excellent flesh-increasing food. Being acute (*tīkṣṇa*), hot (*uṣṇa*) and light (*laghu*) it is specially beneficial. Those fleshes that are considered unpleasant by the patient because he is not used to them should be given to him with deceptive names. Then he readily takes these. But if their real nature be known, these will either be not eaten at all out of revulsion, or, even if eaten, will be vomitted out. Hence these must be disguised and given under false name."

Can a physician—with a medical scruple as strong as to declare all this—be prevented by religious or other scruples to recommend the flesh of the cow in cases where he is convinced of its medical efficacy ? The fact is that the real physician in the *Caraka-saṃhitā* shows no such inhibition. Immediately after the discourse on the need of occasionally deceivimg the patient with false names of the meats served to him, we read the recommendation of the cow's flesh to the consumptive patient, along with the suggestion of various alternatives to it, like the flesh of the hog, camel, ass, buffalo etc.

All this does not mean that the *Caraka-saṃhitā* shows any special fad for beef-eating, as some of the social reformers of 19th century Bengal wanted deliberately to cultivate as part of their struggle against superstition. Though without any inhibition against it, the text is also without any unscientific enthusiasm for it. As far as the ancient doctors understand, beef is not easily digested and, in this sense, undesirable among meats, just as wild barley is among grains furnished with awns, black gram among pulses, river water of the rainy season among waters, etc., etc.[59] But this is a medical view of undesirability and has nothing to do with the religious taboo against beef. When medically necessary, therefore, the doctors consider it a must for certain patients.

59. *Ib.* i.25.39

8. THE ABSOLUTE AND THE RELATIVE : YUKTI OR DIALECTIC

What we have just discussed introduces us to another important feature of the theoretical attitude of the genuine doctors in the *Caraka-saṃhitā*. From the strictly medical standpoint, they refuse to accept any absolute view of the desirability or otherwise of a substance. The medical importance of something is necessarily relative. It depends on the dose, season, mode of administration, nature of the disease and many other medically relevant factors. That is why, *yukti* or "rational application" on which the entire therapeutic system of the *Caraka-saṃhitā* depends, is itself supposed to depend on considerations of dose, seasonal variation, etc. As the text says,
"Therapeutic success depends on rational application and rational application depends on dose and time" : *mātrā-kāla-āśrayā yuktiḥ, siddhiḥ yuktau pratiṣṭhitā.*[60]

Here are two examples from the *Caraka-saṃhitā* which indicate that the rejection of the absolute view in favour of the relative one belongs clearly to the strict medical context.

Poison kills and medicine cures. From the medical standpoint, however, it is wrong to take an absolute view of either. The doctors are aware that the ways in which these act on our bodies are determined largely by their relations to other factors. As related to these factors, the function of poison—like that of medicine—passes into its opposite. Hence they formulate :
"Depending on its right relation with other things, even an acute poison works as an excellent medicine. Because of its wrong relation with other things, even an excellent medicine works as an acute poison."

yogāt api viṣaṃ tīkṣṇam uttamaṃ bheṣajaṃ bhavet/
bheṣajam api duryuktaṃ tīkṣṇaṃ saṃpadyate viṣam//[61]

Thus, in other words, nothing is to be judged in its isolation. Everything is to be viewed in its relation to other things. Hence the physician renounces his quest for the metaphysical absolutes. He takes a relativistic view of things

60. *Ib.* i.2.16. 61. *Ib.* i.1.126.

instead. Such is the dialectic of medicine, as understood by the ancient doctors. The word they themselves use for this dialectics is *yukti*, which roughly meams rational application no doubt, but which also implies that rational application depends not on an isolated view of the cause-effect relation but on the understanding of this relation as it actually belongs to the vast complex of the interconnections in nature. As we have already seen, they try to define *yukti* as the understanding of an effect as being determined by various interrelated factors rather than the understanding of a simple cause producing a simple effect.[62] Elsewhere in the *Caraka-saṃhitā*, while reiterating the relativistic view, the doctors are found to mention their key concept, viz. *yukti :*

"Life is nothing but food transformed into life. Still, if used without consideration for rational application, it (food) becomes destructive of life. Poison is destructive of life. Still, when used with due consideration for rational application, it becomes a rejuvinating agent."

prāṇāḥ prāṇabhūtām annaṃ, tat ayuktyā nihanti asūn/
viṣaṃ prāṇaharaṃ, tat ca yukti-yuktaṃ rasāyanam//[63]

This dialectic of the ancient doctors—their rejection of the absolute in favour of the relative resulting from their tendency to view things not in their isolation but in their interrelation with other things of nature—helps us again to identify the statements in the *Caraka-saṃhitā* that belong to the strictly medical context as contrasted with statements belonging to the extra-medical one. In other words, we have in this, again, a suggestion of the way of differentiating between what is intrinsic and what is extrinsic to medicine in its extant source-books.

9. ALCOHOL AND ALCOHOLISM

In our *Caraka-saṃhitā* we find embodied a set of ethico-religious values supposed to have direct scriptural sanction,

62. see *supra* p. 207. 63. *Caraka-saṃhitā* vi.24.60.

and hence absolute importance.[64] We shall discuss here only one, viz. celibacy or *brahmacarya*. To assume the appearance of extreme piety, the text even goes to the extent of asserting that those with medical knowledge proper declare celibacy as the best road leading to liberation : *utkṛṣṭatamam... brahmacaryam ayanānām iti* ; *evam āyurveda-vidaḥ manyante.*[65]

Still the question is : Can one with real medical knowledge actually declare this ? Or, is it one among hundreds of concessions to the counter-ideology in the extant *Caraka-saṃhitā*—concessions with which the ancient doctors try somehow to save their science from the continuous condemnation of it the the law-givers ? Before answering it, let us first have a few words on the ideal of celibacy or *brahmacarya* in its actual context of ethico-religious values.

Two absolute preconditions for the observance of celibacy are, as explained by the law-codes, total abstention from sex[66] and alcohol. Of these two, let us discuss here the latter.

On the authority of Āpastamba,[67] Manu,[68] and Yājñavalkya[69] Kane[70] observes that one of the essential preconditions for the observance of celibacy is "to abstain from every kind of intoxicant." As a matter of fact the question of celibacy apart, the Indian law-givers express very strong disapproval for alcoholic drink as such. Gautama,[71] Āpastamba,[72] Vaśiṣṭha,[73] Manu,[74] Viṣṇu[75] and others declare that drinking alcohol—*surā* or *madya*—is one of the gravest sins or *mahāpātaka*-s.[76]

To the genuine physicians of the *Caraka-saṃhitā* any absolute view of the desirability or otherwise of alcohol is impermissible, because real medical knowledge allows no absolute view of any substance. Hence they declare :

"Wine is prepared from various substances and possesses various qualities. It has various actions on the body. It is intoxicating in nature. Hence it should be viewed from the point of view of both its good as well as evil effects.

64. *Ib.* i.11.27. 65. *Ib.* i.30.15. 66. Kane ii.374
67. Āpastamba i.1.2.23. 68. Manu ii.177. 69. Yājñavalkya i.33.
70. Kane ii.796. 71. Gautama ii.25. 72. Āpastamba i.7.21.8.
73. Vasiṣṭha i.20. 74. Manu xi.54. 75. Viṣṇu xxxv.1.
76. Cf. Kane ii.795.

"If a person takes it in right manner, in right dose, in right time and along with wholesome food, in keeping with his vitality and with a cheerful mind, to him wine is like ambrosia. While to a person who drinks whatever kind comes in hand to him and whenever he gets an opportunity and whose body is dry on account of constant exertion, this very wine acts as a poison."[77]

Following their dialectical approach, therefore, they proceed to explain some detail of their understanding of alcohol. This discussion of the *Caraka-saṃhitā* seems to retain interest even for our times. We quote it at some length :

"Three stages of intoxication are observed in a person who drinks wine : the first, the middle or the second and the last or the third. We shall describe the characteristics of each of them. It promotes exhilaration, delight, a finer discrimination of the qualities of food and drink, desire for music, songs, jokes and stories. It does not impair the intellect or memory, and causes no incapacity for sense-pleasures. It promotes sound sleep as well as happy awakening. This is the first or happy stage of alcoholic effects.

"Fitful recollection, fitful forgetfulness, frequent indistinct, thick and larynged speech, indiscriminate talk, unsteady gait, impropriety in sitting, drinking, eating and conversation—these are to be known as the symptoms of the second stage of alcoholic effects.

"After transcending the second stage and before reaching the last stage, there is no impropriety which persons of rājasic and tāmasic nature will not commit.

"Which wise man would ever wish to be intoxicated to an extent which is as frightful as insanity, even as no traveller will select a road which leads to an unhappy end and which is beset with many troubles ?

"Having reached the third stage of intoxication, he becomes paralysed like a felled tree with his mind submerged in intoxication and stupor, and though alive resembles a dead man.

"He does not discriminate or recognise either the qualities of

77. *Caraka-saṃhitā* vi.24.26-8. Tr. G.

things or his friends. He does not possess even a sense of his own happiness, for the very sake of which alcohol is drunk.
"Which wise man would like to attain that state in which he cannot discriminate between what ought to be done and what ought not to be done, between pleasure and pain, and between what is good and what is evil in the world ?
"On account of his addiction, he is condemned and censured by all people and is regarded an unworthy man by them, and he later on develops painful diseases as a result of his addiction."[78]

And so on. The *Caraka-saṃhitā* is indeed very keenly aware of the undesirable consequences of excessive drinking. It prescribes certain remedies for alcoholism, inclusive of the controlled use of alcohol itself[79] and—reckless again to the orthodox ethico-religious norm—"the aid of affectionate embraces of women's bodies full of the warmth of youth, the warm clasp of their waists, thighs and fullgrown breasts."[80] What is remarkable about the physicians, however, is that they refuse to judge alcohol by the alcoholic behaviour or the intrinsic nature of the drinks by the consequences of morbid drinking. On this point, the *Caraka-saṃhitā* sums up its attitude as follows :
"But wine, by nature, is regarded similar to food in its effects. It is productive of disease if taken in improper manner, and is like ambrosia if taken in proper manner...
"Wine, taken in proper manner soon gives exhilaration, courage, delight, strength, health, great manliness and joyous intoxication.
"It is an appetiser, digestive stimulant, cordial promoter of voice and complexion and is nourishing, roborant and strengthening. It relieves fear, grief and fatigue. It acts as a soporific to those suffering from insomnia and as a stimulant of speech in reticent people. It keeps awake people given to excess of sleep and relieves obstruction in the body-passages, renders the mind unconscious of the pain of trauma, ligature and other kinds of pain and suffering. It acts as a cure for the disorders resulting from alcoholism.

78. *Ib.* vi.24.41-51. Tr. G. 79. *Ib.* vi.24.113. 80. *Ib.* vi.24.134.

"It increases the enjoyment of sense-pleasures and the desire for the continuance of such pleasures. Even to the very aged, alcohol gives elation and delight.

"There is nothing comparable on earth to the delight derived during the first stage of alcoholic effects, from the perceptions of the five senses in the case of either the young or the aged.

"Alcohol, taken in proper way, is a relaxation for all people afflicted with multitude of sufferings and sorrow."[81]

Such then is the understanding of alcohol in its strict medical context. Taken out of this context, when it is placed in the context of the 'doctrine of liberation', there is the fallacy of contradiction.

10. LOYALTY TO LAW-GIVERS

At least some of the ancient doctors warn their colleagues against the risk of inconsistencies and contradictions resulting from the violation of the strict norm of medical discussion. In spite of this, sometime before the *Caraka-saṃhitā* assumes its present form, this norm is grossly violated presumably to placate the law-givers. At any rate, in the extant *Caraka-saṃhitā* we often come across a peculiar anxiety to pledge loyalty to the law-givers, howsoever incongruous that may be for medical science.

Thus, for example, the *Caraka-saṃhitā* advises : "One must study the sacred law-books, understand their meaning, and, accepting these as one's guide, must mould one's conduct according to what is said in these" : *dharmaśāstra-anugamanaṃ tadarthāvabodhaḥ tena avaṣṭṛmbhaḥ tatra yathoktāḥ kriyāḥ.*[82] From the medical point of view, however, this is just impossible. Various other considerations apart, the law-givers prohibit the eating of a large variety of substances, which the physicians feel obliged to recommend as diets or drugs for various diseases. The law-givers' precepts

81. *Ib.* vi.24.59-67. Tr. G. 82. *Ib.* iv.5.12.

and the requirements of the healing technique do not agree. Still, the threat of the law-givers is there and one way of trying to evade it is directly placating them. The extant *Caraka-saṃhitā* frequently makes this effort quite obvious. It is full of random recomendations for the law-givers' norm of piety and their demand for abject submission to scriptural authority.

Thus, we are told that for livelihood one must follow only those professions that are not in conflict with traditional morality and religion as embodied in the law-codes —*dharma-avirodhinaḥ vṛtti-upāyān.*[83] From the standpoint of the law-givers, it means among other things that members of the upper castes must not go in for medical practice, which should remain restricted to the base-born persons like the Ambaṣṭhas.[84] This is apparently overlooked by the later editors and reconstructors of the work, who seem to imagine that the law-givers are likely to feel all the more flattered by their declaration that the noble profession of medicine must remain restricted only among the members of the higher castes. "This science", says the *Caraka-saṃhitā*, "is to be studied only by the Brahmins, Kṣatriyas and Vaiśyas" : *saḥ ca adhyetavyaḥ brāhmaṇa-rājanya-vaiśyaiḥ.*[85] This is neither *dharma-śāstra* nor *āyurveda,* but some kind of an *ad hoc* glorification of caste-privilege. The real view of the physician seems to be expressed elsewhere in the text where it says that one becomes a doctor only by being properly initiated in medicine and hence the physician's career has nothing to do with previous birth : *na vaidyaḥ pūrva-janmanā.*[86]

But the text does not always remain true to this spirit. Conceding to the counter-ideology it recommends the following as precepts for good conduct : Have reverence for gods, cows and Brahmins; perform the sacrificial rituals (*homa* and *yajña*); be religious at heart and be essentially religious (*dharmātmā* and *dhārmika*); entertain only the orthodox (*āstika*) views; avoid the company of those that are irreligious or disloyal to the king

83. *Ib.* i.5.104. 84. see *supra* p. 217. 85. *Caraka-saṃhitā* i.30.29.
86. *Ib.* vi.1D.51.

(*adhārmikaiḥ saha na āsīta narendra-dviṣṭaiḥ*); take not the shelter of a non-Aryan (*na anāryam āśrayet*); tend not the sacrificial fire inattentively or in a state of pollution; step not out of doors without touching precious stones, sacrificial ghee and auspicious objects like flowers of worship; partake not of a meal without saying your prayers or without performing the *homa* or without due offerings to the tutelary deities and manes; and so on.[87] Such a mish-mash of ritual, religion and traditional morality may be unquestionably satisfactory for the custodians of the counter-ideology. But has any of these precepts any relevance for the medical context ?

But the extant *Caraka-saṃhitā* is full of such irrelevant recommendations. We have the scope here to mention only a few. Belief in soul and after-life, the text argues, makes one diligent in the performance of scriptural observances, which, in its turn, ensures fame in this world and heaven after death.[88] After a person has taken the oleation and sudation procedures, should worship the gods, fire, Brahmin, etc., and then administered a decoction of emetic nut together with honey, liquorice, rock-salt, etc., sanctified by the benedictory spells chanted by Brahmins under auspicious constellation.[89] Though otherwise earnest to determine the actual causes of insanity, the text declares : "The following is the manner in which the madness-inducing agencies, when wishing to afflict any one with madness, operate. Thus the gods send down madness by a look; the teachers, elders, adepts and the great sages by a curse; the manes by revealing themselves, the *gandharva*-s by a touch, the *yakṣa*-s by taking possession; the *rākṣasa*-s by letting their body-odours be sniffed; and lastly, the goblins by mounting their victims and riding them."[90] Some elements of folk-lore in this need not be denied; what is not to be overlooked, however, is that there is also the tendency to scare people of the wrath of gods etc., i.e. the fear with which the law-givers want to keep the masses under control.

This tendency to scare people of the consequences of impious

87. *Ib.* i.8.18-28. 88. *Ib.* i.11.33. 89. *Ib.* i.15.9.
90. *Ib.* ii.7.12. Tr. G.

acts becomes specially obnoxious in our *Caraka-saṃhitā* when it is expressed in genuine medical contexts. Thus, after elaborately discussing the causes and cures of leprosy as the physicians understand these, the *Caraka-saṃhitā* abruptly declares: "Untruthfulness of speech, ingratitude, blasphemy against the gods, derision of the elders, sinful actions, the accumulated evil acts of past lives and antagonistic diet are the causative factors of leprosy."[91] Excepting for "antagonistic diet"—which is perhaps mentioned to soothe an uneasy medical conscience—practically everything said here is as relevant for the law-codes as irrelevant for medical science. Similarly, after discussing at length the cure for the bite of various venomous creatures, the text suddenly remembers as it were the need to placate the lawgivers by way of scaring people of heresy and disbelief. So it declares that cases of persons bitten "in the house of people who have no faith in the Vedas" (*pāṣaṇḍa-āyataneṣu)* prove incurable.[92] Again, the text virtually claims that the really pious persons do not suffer from diseases.[93] Medical problems thus connected with virtue and vice easily create conditions for the surrender of therapeutics proper in favour of prayers and propitiations. Even this is done in the *Caraka-saṃhitā*. "By worshipping with due piety, the god Īśvara together with his consort Umā, waited on by the god's entourage and the company of the Mothers or minor goddesses, one soon gets rid of irregular fever. By worshipping Viṣṇu, the myriad-headed, the lord of all that is animate and inanimate, and the all-pervading, with the recital of his thousand names, one throws off fever of any kind. By worshipping, by means of sacrifices, the gods Brahmā, the two Aśvins, Indra, Agni, Himālaya, the Gaṅgā and the company of the Maruts, one conquers fever."[94]

This easily allows the invasion of medicine by mythology. After discussing elaborately the causes of fever as the physicians understand these, the text comes out with the abrupt declaration: "But fever is due to the anger of god Śiva or Maheśvara."[95] Elsewhere, the spokesman of medicine is made to

91. *Ib.* vi.7.177. 92. *Ib.* vi.23.160. 93. *Ib.* vi.2.46-7.
94. *Ib.* vi.3.310-3. 95. *Ib.* ii. 1.35.

go into greater detail of this. Thus we are told that being ignored by Dakṣa's sacrifice, Śiva, "the sovereign one, created out of the fire of his anger a youth that should destroy the sacrifice of Dakṣa. When the sacrifice was destroyed, the gods became panicky; and all living beings stricken with burning and panic, ran helter-skelter to the four quarters. Then the gods along with the seven sages sang songs of praise for the sovereign god and he assumed the benevolent aspect and became the Benevolent One...To that embodiment of his anger, the sovereign god (Śiva) ordered : 'Thou shalt go down into the world of mortals as fever and afflict life at birth and death and in the wake of tresspasses'."[96] Strangely enough, immediately after all this we read in the *Caraka-saṃhitā* : "The causes of fever, numbering eight, have been described earlier in the Section on Pathology *(nidāna)*, under separate heads."[97] It is quite clear that the mythological view of the cause of fever is not the one that the doctors really approve of. It is not only redundant to medicine; it also contradicts the view of fever as the physicians actually understand it.

But the point is that howsoever contradictory it may be to the real medical view, this mythological understanding of fever is also there in our *Caraka-saṃhitā*. Elsewhere the text proposes to explain a variety of other diseases also in terms of the same mythology. Thus we read : "It was during the destruction of the sacrifice of Dakṣa that *gulma* (enlarged spleen) first arose in the past as the result of the agitated bodily movements gone through by the assembled persons who in their panic ran helter-skelter in all directions, running, swimming, racing, flying, jumping etc. Also at that time, the urinary and dermic disorders took their rise as the result of the libations that were eaten; the insanities as the result of fear, alarm and grief; the epilepsies as the result of the pollution by various kinds of unclean beings. As regards the fever, we have already described how it arose from the forehead of great god Śiva. From the heat induced by fever arose the disease hemothermia. As for consumption

96. *Ib.* vi.3.15-25. 97. *Ib.* vi. 15.27.

it took its rise from the excessive sex indulgence of the lord of the constellations, i.e. the moon-god."[98]

11. COUNTER-IDEOLOGY WITH HOOK, LINE AND SINKER

It seems that the concessions to sundry superstitions, though pleasing for the law-givers, are not fully reassuring to them. Hence the *Caraka-saṃhitā* shows the tendency to assert and re-assert the entire gamut of the theory of soul, *karma* and liberation, openly flouting the theoretical requirements of medicine.

This is specially true of the Śārīra-sthāna, which, of all the books of the *Caraka-saṃhitā*, shows the most pronounced interest in soul, rebirth, *karma*, piety and scriptural authority. Had the Śārīra-sthāna been the discussion only of these, the modern scholar could have perhaps rejected the whole of it as later interpolation. But the fact is that the same book also contains ideas indicative of the actual position of the physicians. One has to depend on these for reconstructing the theoretical basis of ancient Indian medicine. What we have to reject for the purpose, however, are the views of the soul etc. enthusiastically discussed. Here are some specimens of these.

Chapter I of the Śārīra-sthāna is frankly metaphysics, or, more specifically a discourse on the soul and its salvation, without any medical interest.

The discussion is in the form of Ātreya's answer to certain questions raised by Agniveśa. Those possessing the metaphysical wisdom about the soul (*ātmajñāḥ*), says Agniveśa, declare the soul (*ātmā*) to be free from any connection with activity, eternally aloof (*svatantra*), endowed with lordship, all-pervading, infinite, etc. If so, how is activity attributed to it and how is it that it is born also of undesirable wombs ? Again, if endowed with "lordship", why is the soul forced to suffer ?

98. *Ib.* ii.8.11. Tr. G.

And, if all-pervading and infinite, why does it not know everything at once ?[99] Hence there is doubt (*ataḥ saṃśayaḥ*)[100] about what is said of the soul.

Ātreya wants to remove this doubt. His main point seems to be a distinction drawn between the embodied soul, often called *puruṣa*, and the eternal spirit, usually called *ātman*. The latter, though by nature transcending everything, somehow or other gets embodied because of *karma* and therefore also undergoes rebirth. For this purpose he freely uses the terminologies of Vedānta and later Sāṃkhya.

"The transcendental self (*paramātmā*), being beginningless, has no birth ; while the embodied being (*puruṣa*) is the product of the fruit of actions performed through delusion, desire and aversion... That self which has no beginning in time is eternal ; the contrary is the case with the self who is caused. An entity that has no beginning is regarded as eternal, while a thing that has a beginning is regarded otherwise That higher self does not come under the category of anything. Being eternal, it cannot be grasped. It is unmanifest and unthinkable. The manifest is otherwise... Yoked to the mind which cleaves to it by virtue of the acts performed through the instrumentality of the body, the self though present in all bodies is for all practical purposes to be regarded as localised in one particular body. The self has no beginning and likewise the succession of bodies is without a beginning. Both being thus beginningless, neither can be the antecedent to the other."[101]

The second chapter of the Śārīra-sthāna, while discussing subjects of genuine medical interest like the cause of conception and the nature of foetal development, abruptly raises the question : "How does the soul migrate from body to body ?"[102] It is answered as follows :

"The soul, which moves along with the mind, flits from one body to another, enveloped by the subtle forms of matter in four forms. As it is of the subtle nature of the tendencies

99. *Ib.* iv.1.5-7. 100. *Ib.* iv.1.12. 101 *Ib.* iv.1.53-82. Tr. G.
102. *Ib.* iv.2.28.

of actions, its form cannot be visible except to the mystic vision of the Yogis.— The self is never dissociated from the very subtle and supersensual elements or from its tendencies of past actions or from the mind and the intellect, or from the principles of ego and the disorders of passion and ignorance.

"The mind is indeed bound by passion and ignorance and, in the absence of knowledge, all disorders are brought about by them. This mind along with its disorders and the force of past actions are the causes of transmigration of the self from life to life as well as for righteous and unrighteous conduct."[103]

It is for the metaphysicians to decide how much of their interest is left in all this. But our main point is that all these are found in the extant *Caraka-saṃhitā*, howsoever repulsive these may be to the norm of strict medical discussion surviving in the same text.

12. FALLACY OF CONTRADICTION

So the extant *Caraka-saṃhitā* does contain a cluster of ideas, which, in the terminology of the ancient physicians, can only be described as belonging to the *mokṣa-dhārmika-samaya* or the context of the doctrine of liberation. We have now to see why such ideas, if allowed to have any place in the context of medical discussion, leads to the fallacy of contradiction (*viruddha*).

Interestingly, we need not go outside our *Caraka-saṃhitā* to see examples of the fallacy. Bearing in mind what is already discussed about disease, health and therapeutic technique—without which ancient Indian medicine becomes on the whole meaningless—let us first read some of the passages of our *Caraka-saṃhitā* on the law of *karma*.

"That which is called *daiva* (destiny)—and by which is meant

103. *Ib.* iv.2.31-8. Tr. G.

karma of the previous birth (*pūrvadehika*, literally 'of the previous body')—is also found to become the cause of diseases in the course of time. There is no significant action that does not produce its results. Diseases caused by past actions are destructive of therapeutic applications and are cured only when the power resulting from past actions is exhausted."[104]

Admitting this, what is the physician supposed to do? Wait for the results of the past actions of the patient to take their due course? But, then, we are not told how the physician can possibly calculate the duration of this. To imagine that such a calculation forms part of medical science would be ridiculous. Only the charlatans, posing as astrologers, can pretentd to be serious about it. In any case, there is no doubt that if the law of *karma* is assumed to be true, the suffering of the patient in the present life has got to be viewed as determined by the nature of actions performed by him in the past life. Since none can interfere with the course of *karma* of somebody else, the physician —deprived of the intrinsic efficacy of his theory and practice —becomes some kind of a helpless spectator of the suffering patient.

The text returns elsewhere to discuss the question of *daiva* and *puruṣakāra*—i.e. of destiny of a person as determined by his own past actions (*daiva*) and the role of his present active effort (*puruṣakāra*)—in the course of which again medical science is virtually declared inoperative :

"Destiny (*daiva*) is to be known as one's own actions done in the former life, while by 'effort' (*puruṣakāra*) is meant one's activity in this life. Concerning these two kinds of activity, there are various degrees of strength and weakness ; for we see that action is of three kinds—mild, moderate and strong. When both types of action (destiny and effort) are of the best character, then they make for long, happy and certain life ; the reverse is the case when both types

104. *Ib.* iv.1.116-7.

of action are of the reverse character ; when they are moderate, then the life too is moderate."[105]

In the view expressed here, there is some attempt no doubt to reconcile the efficacy of present action with the law of *karma*. Life is not absolutely predetermined by past actions, inasmuch as a person is also capable of shaping it to a certain extent by his own effort, specially when the power of *daiva* is not very strong. Notwithstanding *daiva*, therefore, present actions also are meaningful. But whatever may be the theoretical worth of such a compromise view, the fact is that even in it life remains predetermined in so far as the law of *karma* is admitted. And in so far as life of the patient is assumed to be predetermined, an outside agent like the physician can hardly alter its course. The physician is supposed to be absolutely helpless when the *daiva* of the patient is imagined to be most strong.

Thus, in short, to the extent to which the law of *karma* is accepted by our *Caraka-saṃhitā*, it contradicts the self-assurance of the physician expressed in his defence of medical science in the course of the "four-factor" (*catuṣpāda*) view of medicine we have already examined. But why is this contradiction ? The law of *karma* belongs to the "context" of the theory of liberation, while the "four-factor" view of medicine belongs to the context of medical science.

13. CONVERTING A HERETIC: BHARADVĀJA

The *Caraka-saṃhitā* retains for us the name of an ancient physician whose theoretical position—because of being true to science—is judged heretical in the standard of officially approved worldview. It also tells us the story of how effort is made to convert him to orthodoxy.

The story of this conversion is based on an obvious anachronism, because the authority described as being con-

105. *Ib.* iii.3.30-3.

verted is the earliest theoretician of Indian medicine remembered by our medical compilation. It is thus a forgery or a fiction. Still it is of considerable importance for us, because it shows how some of the comparatively later representatives of Indian medicine feel nervous about the original theoretical plank of Āyurveda, specially its commitment to the theory of *svabhāva* or of nature being governed by purely natural laws—a view that openly flouts the law of *karma*. By concocting this story of conversion of the ancient authority, the later doctors want to assure the law-givers as it were of their own loyalty to the counter-ideology—specially to the theory of *karma* and liberation. We shall therefore have to analyse this story in some detail, tedious though that may be.

As entertaining the heretical views, we are told of a physician called Bharadvāja. Apparently, it is felt that there is some special reason to be annoyed with his heresy, because we find an entire chapter of our text designed to refute it.

The title of chapter 3 of Śārīra-sthāna is roughly translated as "minor chapter on foetus formation". It has the form of a debate between Punarvasu Ātreya and Bharadvāja, in the course of which the former is supposed to refute the latter. As the mnemonical verse at the end of the chapter sums up its main theme : "Thus are given the views of Punarvasu Ātreya as well as of Bharadvāja—along with the refutation of the thesis (*pratijñā pratiṣedha*) of the latter—on questions concerning the origin, development and birth of the child".[106] The author of this chapter is pleased to make Ātreya represent the Vedāntic view, though in open violation to what is stated elsewhere in the *Caraka-saṃhitā* where the same Ātreya says that in medical science everything is viewed as made of matter in five forms.[107] Bharadvāja laughs at Ātreya's Vedānta as a mumbo-jumbo made of mere words. From the Vedāntic viewpoint, therefore, Punarvasu Ātreya is made to look at Bharadvāja's position as highly heretical, which he is urged to abandon. The words finally put in Ātreya's lips are : "Therefore, the soul is the knower and the primeval source (*prakṛti*); it is also the witness (*draṣṭā*)

106. *Ib.* iv.3.26-7. 107. see *supra* p. 66.

as well as the sole cause (*kāraṇam eva ca*). All this, Oh Bharadvāja, is definitely proved; so subdue your doubt (*sarvam etat nirṇītam bharadvāja jahi saṃśayam*)."[108]

But what is the view of Bharadvāja thus considered undesirable from the Vedāntic standpoint ? In the chapter of Śārīra-sthāna just mentioned, we have a garbled version of it, evidently because of the greater anxiety to reject it than to represent its main points. But the view remains better stated elsewhere—namely in chapter 25 of Sūtra-sthāna—which therefore forms a more convenient starting point for our present discussion.

This chapter has the title "on the origin of *puruṣa*", the word *puruṣa* being taken in it in the more commonplace meaning of "human being". The mnemonical verse at the end of the chapter sums up its contents as follows : "In this chapter on the origin of man, the sage has described the source of body and disease and the different schools of thought thereon, the rules concerning diet and lastly the most excellent among the wines."[109] The structure of the chapter containing so many discussions is naturally somewhat complex. It opens with an account of a debate among ancient medical authorities on the problem of the origin of man and diseases. This forms the theme of the first half of the chapter. Its second half discusses the general principles of dietetics ending with the enumeration of "84 varieties of best wines". What connects these two parts of the chapter is the view finally arrived at in the debate of its first half. According to it, both human beings and their diseases originate ultimately from foods and drinks. The second half of the chapter naturally passes on to discuss the questions concerning foods and drinks.

We begin with an account of the debate as found in the first half of the chapter.

A number of eminent authorities, we are told, gather round Punarvasu Ātreya.

Among them, Hiraṇyākṣa[110] argues that the ultimate causes of both human beings and diseases are the six *dhātu*-s, roughly meaning the elements. These are : earth, water, air, fire, sky

108. *Caraka-saṃhitā* iv.3.25. 109. *Ib.* i.25.51 110. *Ib.* i.25.14-5.

(*ākāśa*) and consciousness (*cetana*)—the last as a *dhātu*, is somehow given the same status as the first five, which are viewed as matter (*bhūta*) in its five main forms.

Śaunaka[111] objects to this view. How can the human being originate from the six *dhātu*-s without the agency of the father and mother ? It is observed that a human being is born only of human beings, just as a cow is born of cows and a horse of horses. Moreover, certain diseases like the urinary one (*meha*, diabetes ?) are obviously transmitted from the parents to the offspring, i.e. are hereditary. So the parents are to be viewed as the real causes both of human beings and diseases.[112]

But Bhadrakāpya rejects this view. Had parents been the real causes of diseases, from the blind should have been born only the blind, which however is not a fact. Besides, how to account for the origin of the first parents ? Rejceting Śaunaka's view therefore, Bhadrakāpya proposes another, according to which human beings as well as their diseases are the products of *karma* (*karmaja)*. The results of one's past actions determine the nature of one's birth as well as the diseases one suffers from.[113]

At this stage of the debate, the physician we are particularly interested in—namely Bharadvāja—intervenes. It is absurd, he argues, to claim that both human beings and diseases are caused by one's past actions (*karma*), for *karma* or action presupposes *kartā* or the agent (i.e. *puruṣa*) that performs the action (*kartā pūrvaṃ hi karmaṇaḥ*), nor is ever observed any action the result of the non-performance of which is the *puruṣa* (*dṛṣṭaṃ na ca akṛtaṃ karma yasya syāt puruṣaḥ phalam)*.[114] The main point of the argument seems to be that there are only two conceivable ways of trying to connect the origin of *puruṣa* with *karma* : to claim either that actions performed cause *puruṣa* or that actions unperformed cause *puruṣa*. But both the possibilities are absurd. It cannot be claimed that actions performed cause the human being, for the very performance of action presupposes the existence of the human being. On the

111. The text in G-ed apparently misprints the name as Kauśika.
112. *Ib.* i.25.16-7. 113. *Ib.* i.25.18-9. 114. *Ib.* i.25.20

other hand, an unperformed action—being something like the son of a barren woman—can nowhere be observed : an action is essentially something which is performed. Hence it is absurd to imagine that any unperformed action causes the human being.

Thus, in short, there is no conceivable way of viewing *karma* as the cause of *puruṣa.*

Rejecting the *karma* theory, Bharadvāja formulates his own, according to which both human beings and their diseases are caused by *svabhāva* or "law of nature". As Bharadvāja puts his view, "The cause of human being as well as of diseases is *svabhāva*, just as roughness, fluidity, mobility and heat are in the cases of (matter in its four forms) ending with fire (i.e. earth, water, air and fire respectively) *(bhāvahetuḥ svabhāvastu vyādhīnāṃ puruṣasya ca/khara-drava-cala-uṣṇatvaṃ tejo'ntānaṃ yathā eva hi).*[115]

We have already discussed[116] the implications of the view of *svabhāva* and have seen how it is inseparable from the materialist outlook. This means that the medical compendium wants us to look at Bharadvāja as subscribing to materialism. In his view, both human beings and diseases originate from matter and this exclusively because of the laws of nature.

In the debate of the physicians we are discussing, Bharadvāja's view is immediately challenged by Kāṅkāyana, the physician from Central Asia. Such a view, he argues, is no good, because it makes existence or non-existence of everything completely determined by the laws of nature. Rejecting it, therefore, one should view the omnipotent Prajāpati (lit. lord of all creatures), son of Brahmā, as the supreme cause—i.e. of everything animate and inanimate and of all pleasure and pain. This, in short, is the theistic view according to which god causes everything.[117]

But *bhikṣu* Ātreya points to the fallacy involved in such a view. How can Prajāpati, who is supposed to be all-merciful, cause suffering in the form of diseases for his own children—i.e. the human beings who are his creations—like a malevolent person? Instead of god, therefore, *bhikṣu* Ātreya proposes to

115. *Ib.* i.25.21. 116. see *supra* 175ff. 117. *Caraka-saṃhitā* i.25.22-3.

view time (*kāla*) as the real cause of human beings as well as their diseases, because the entire world is under the influence cf time and everywhere time is the cause of everything (*jagat kālavaśaṃ sarvaṃ kālaḥ sarvatra kāraṇam*).[118]

Such are the views expressed by the different authorities in the debate on which Punarvasu Ātreya delivers the following concluding observations : Those very things the wholesome combination of which causes man also cause the various diseases when combined in an unwholesome form (*yeṣām eva hi bhāvānāṃ saṃpat saṃjanayet naram/teṣām eva vipat vyādhīn vividhān samudīrayet*).[119] Thus man as well as various diseases originate from the same things, depending on their right and wrong combinations respectively.

This inevitably raises another question. What is meant by the "things" (*bhāvānām*, literally 'of existents'), the right and wrong combinations of which have such effects ? This is precisely the question which Vāmaka, king of Kāsi, is made to ask Ātreya in our text.[120] To this Ātreya has a simple answer. It is food.[121] We have already discussed this view.

With these points in mind, let us ask ourselves another question. When a thinker insists that food and food alone is the cause both of the origin and growth of man as well as his diseases, can he logically evade the view of *svabhāva* or laws of nature ? The presumption is in the negative. What possibly accounts for food being transformed into man and his diseases ? There are only two conceivable answers to this. Either that it is due to some supernatural agency or that it is due only to the laws of nature. Since Ātreya does not accept the former, he has to admit the latter. In other words, the only coherent way in which we can put his view is that food causes man and diseases exactly in the way in which fire burns, i.e. because of the laws of nature or *svabhāva*. This means that of all the views defended in the debate, the one expressed by Bharadvāja agrees best with what Ātreya says. Bharadvāja talks only of *svabhāva* while Ātreya talks only of food. The two views taken to-

118. *Ib.* i.25.24-5. 119. *Ib.* i.25.29. 120. *Ib.* i.25.30. 121. *Ib.* i.25.31.

gether seem to give us a fuller idea of the theoretical basis of ancient Indian medicine. It is because of natural law that from food originate both man and diseases. In other words, instead of counterposing the two views against each other, we have a better understanding of the medical standpoint when the two are synthesised.

Thus, as far as this particular chapter of *Caraka-saṃhitā* is concerned, there is no ground to think that the views of the two authorities are in irreconcilable contradiction. Further, as we have already seen, the view attributed here to Ātreya is an integral part of the theoretical position of ancient Indian medicine.

Chapter 3 of the Śārīra-sthāna, however, has a different story altogether. The same Ātreya appears in it in the role of an ardent Vedāntist. But Bharadvāja apparently sticks to the view just discussed. Hence he is considered a heretic, whom Ātreya refutes and tries to convert.

It seems that there is some peculiar distortion of the position attributed to Bharadvāja in this chapter—a distortion that perhaps helps its refutation carry a rather easy conviction. Let us first try to be clear about it.

The problem discussed here is that of the origin, development and birth of the child. Ātreya mentions a number of factors all of which contribute to these. These are : 1) mating at right time of physically fit man and woman resulting in fertilisation, which is understood as the union of semen with female blood, 2) descent of the transmigrating soul into the fertilised entity, 3) entrance into the womb of a "mind" (*sattva*)—coming from somewhere—to effect the connection between the transmigrating soul and the new body it is going to acquire and 4) *rasa*-s—i.e. food transformed into vital fluids—and their concordance (*sātmya*), which contribute to the nourishment and growth of the foetus. As Ātreya sums up, "Hence the child is born of the mother, born of the father, born of the soul, born of *rasa*-s and their concordance, and born of the mind that effects the connection between the soul and the body."[122] At a

122. *Ib.* iv.3.3.

later stage of discusstion, he adds another factor to his list, namely the result of the past *karma*, i.e. not only of the parents but also of the soul (*jīvātmā*) going to be reborn as the baby.[123]

It is obvious that the factors enumerated represent a blend of the natural and the supernatural. In so far as Ātreya talks of the physically fit man and woman, their right way of mating resulting in fertilisation, the growth of the foetus from *rasa*-s and their concordance—there is nothing in his view to which a naturalist is supposed to object. In so far, however, as he talks of the transmigrating soul coming to be joined to the foetus, of the mysterious entry of a "mind" into the womb to effect this conjunction and lastly when he assumes past *karma* shaping the destiny of the new-born—Ātreya assumes the supernatural and hence is only expected to be rejected by a naturalist.

We have just seen that in the medical debate Bharadvāja figures as a naturalist or *svabhāva-vādin*, believing only in nature and its laws. Admitting this to be his real position, there can be no reason for him to reject the natural factors mentioned by Ātreya in explaining the formation of the foetus and its development. What he is consistently expected to object to are only the supernatural assumptions viz, the soul etc. There is no doubt that in our text Bharadvāja is most vehement in rejecting all these. Where the text is misleading is that it makes him reject also the natural factors of Ātreya's enumeration. Bharadvāja is made to argue that the mating of the male and the female, the *rasa*-s and their concordance—all these are as irrelevant for explaining the origin and development of the foetus as are the soul, mind and past *karma*. Besides, though he is described as rejecting all these, the text does not provide him with any positive solution of the problem he is made to discuss. Are we supposed to believe that Bharadvāja knows no answer to the questions he faces so boldly ?

In the context of ancient Indian thought there remains

123. *Ib.* iv.3.9.

another possibility, for we are aware of another view current in the ancient times, which is called *yadṛcchā-vāda* or accidentalism. According to it, all phenomena of nature are due to pure accident. There is nowhere any cause to account for any event. Are we then supposed to think that Bharadvāja represents this accidentalism? But we cannot believe it, for we have already seen that an essential precondition of *svabhāva-vāda* is the rejection of accidentalism.

If Bharadvāja defends the view of *svabhāva*—as he unquestionably does in the medical debate—his picture as something like a pure accidentalist cannot but be suspect. Evidently, the position of the *svabhāva-vādin* is somewhat distorted and whoever may be responsible for this distortion, his motive is not difficult to guess. If Bharadvāja argues that not even the father and mother has anything to do with the birth of the child, his position becomes such a *prima facie* absurdity that it is easy to refute it.

Thus the garbled version of his view as found in this chapter of the text need not be taken on its face value. Consistently with *svabhāva-vāda*, he is expected to reject both supernaturalism and accidentalism. Since in this chapter Ātreya is imagined to refute him from the Vedāntic standpoint, the emphasis is more on Bharadvāja's rejection of the supernatural—particularly the view of the transmigrating soul mysteriously entering the womb after fertilisation and the quaint assumption that a mind comes from one knows not where to go into the womb in order to effect some connection between the transmigrating soul and its new body. That these are the main points contested is further evidenced by the fact that in the version of the controversy, Ātreya is made to defend particularly these points as strongly as Bharadvāja is described to reject these.

We shall discuss the controversy mainly on these points.

As against the claim that the soul is a cause of the origin of the foetus, Bharadvāja argues that this is virtually viewing the soul as begetting itself. Logically, that is absurd. There are only two conceivable ways of viewing the soul as begetting itself. Either the soul is already born before begetting itself or it remains unborn before begetting itself. But there is sense in

neither of the alternatives. Can it be imagined that the soul, in spite of being already existent causes it to come into being? Again, something non-existing cannot cause anything. If, therefore, the soul is viewed as non-existing before begetting itself, there can be no sense in claiming that it causes itself to come into being. Thus, both the alternatives are logically absurd. This logical absurdity apart, the claim that the soul is a cause for the origin of the foetus leaves unexplained why it does not necessarily choose for itself a desirable type of birth—possessed of unlimited power, strength, splendour and what not.[124]

As against this, Ātreya is made to deliver a long lecture on the Vedāntic view of the soul and its transmigration, i.e. as far as the author of this chapter of the Śārīra-sthāna understands Vedānta. It would be tiring to quote here the entire sermon of Ātreya. We give below only some of its main points, specially to see how utterly irrelevant all these are from the standpoint of the theory and practice of healing.

Conception (*garbha*), Ātreya argues, is due also to the spirit or soul. The soul that enters the womb is known as the indwelling soul (*antarātmā*), alternatively also called *jīva* or the individual soul. By its inherent nature, the soul is eternal, diseaseless, ageless, deathless, undecaying, indivisible, immovable, omniform, omnifunctional, unmanifest, beginningless, endless, and immutable. Such a soul, after entering the womb, gets attached to the semen-blood complex and it thus causes the formation of the embryo. In the strict sense, however, the soul cannot have any birth, because it is beginningless. Therefore, the soul, in spite of being unborn (*ajāta*) causes the embryo, which is born (*jāta*). In the course of time, that which is originally the embryo attains the stage of childhood, youth and old age. Therefore, the soul is said to be born according to the stage reached by it; and it is called 'on the process of being born' from the viewpoint of the stages it is going to acquire. And so on.[125] To these, Ātreya does not forget to add another factor as determining the nature

124. *Ib.* iv.3.4. 125. *Ib.* iv.3.8.

of the new birth the soul is supposed to acquire. It is the result of the past *karma* not only of the soul going to be reborn but also of the parents giving birth to the new-born.[126]

But this is not all that Ātreya wants Bharadvāja to believe. Assuming that the spirit or soul enters the womb to be united with the embryo, there remains the problem of some connecting agent that effects this union. Ātreya claims that this connecting agent is the "mind", which also enters the womb along with the soul. To Bharadvāja, this is palpably absurd. As he puts it, "Nor in fact does a mind, coming from another world, enter into the embryo. For if the mind thus enters the embryo, there should be nothing unknown, unheard or unseen pertaining to its previous incarnation. As a matter of fact, one does not recollect anything of that kind".[127]

But Ātreya goes on arguing :

"There is also the connecting agent which is the mind. That which yokes the spirit with the sentient organism, that on the imminence of whose departure virtue leaves the body, the inclinations change, all the sense-organs are distraught, strength wanes, diseases get aggravated, and finally on whose departure the organism is bereft of life and which holds the senses together—this is called the mind. It is said to be of three types—pure, passionate and inert. Now, of whatever dominant type a man's mind is in this life, he gets linked to that very type in the next birth. Thus, for instance, when he is linked to that very pure type of mind that he possessed in the previous existence, then he can recall the past incarnation as well. Hence, memory follows the spirit because it remains linked to the same mind. It is in consequence of this that a particular person is said to be a *jātismara* (one who remembers his past birth)."[128]

It is no use raising the question as to how far this is consistent even with the Vedānta philosophy of eternal soul, which Ātreya is ostensibly made to represent. What primarily concerns us instead is Bharadvāja's reactions to it. The text sums up these reactions with the words : *vāgvastu-mātram etad-*

126. *Ib.* iv.3.9. 127. *Ib.* iv.3.4. Tr. G. 128. *Ib.* iv.3.13. Tr. G.

vacanam anarthaṃ syāt iti—"all this has only words as their substance and the statements are without any sense."[129]

In short, for Bharadvāja such metaphysics has no more value than mere verbose nonsense. Still Ātreya is described as trying his best to convert the heretic :

"Now listen to the sovereign power of the knowledge of the self—the spiritual knowledge. The knower of the self, having stilled the senses and the fickle mind, and having come into his own and being established in his own awareness, his vision extending everywhere, contemplates all existences. Oh Bharadvāja, accept also this fresh conclusion. Having withdrawn from the activities of the sense-organs and speech, the sleeping man who has passed into the dream-state, cognises the objects and pleasure and pain; therefore the self is said never to exist without awareness. There is no cognition of any kind without self-awareness; no consequent can exist independently of a cause. Therefore the self is the knower, the archetype, the seer and the final cause. Oh Bharadvāja, all this has been definitely established; hence abandon your doubt."[130]

The description of the controversy ends here, without even a word on the impact on Bharadvāja of the Vedāntic sermon attributed to Ātreya. This is apparently strange, because a chapter designed specially to refute a heretic is normally expected to end with some gratifying words on the merit of the conversion. Why, then, is this peculiarity ? The *Caraka-saṃhitā* does not provide us with a direct answer to the question. But we may find an answer to it, if we can settle the identity of the heretic.

According to the norm of medical discussion already reviewed, the enthusiasm for Vedānta in the Śārīra-sthāna cannot but be suspected as a later graft on the text. Whoever is responsible for this, must have reason for being specially annoyed with Bharadvāja's views. One reason for this is obviously that the views are strongly opposed to Vedānta. But that is not the only reason. The more important one seems to be the great prestige Bharadvāja already enjoys among the ancient

129. *Ib.* iv.3.15. 130. *Ib.* iv.3.20-5. Tr. G.

authorities on medicine. From the Vedāntic or quasi-Vedāntic standpoint of the Śārīra-sthāna, he is too important an adversary to remain unrefuted. Only this explains the insertion of a special chapter into the text with the main purpose of rejecting his views.

Who, then, is this Bharadvāja ?

In the *Caraka-saṃhitā*, we come across an ancient doctor called Kumāraśirā Bharadvāja. He is mentioned thrice in the text as expressing views on certain technical questions considered important in ancient medicine. But there is nothing strongly heretical about these views and the presumption is that he is not the same Bharadvāja we are discussing.

But we read of another Bharadvāja in the text, who has moreover great reputation in the history of Indian medicine. He is mentioned in the story with which our text opens. Over fifty sages gather somewhere in a corner of the Himālayas to discuss the problems of health and disease. Among them Bharadvāja goes to god Indra to learn all about these, because the sages know that Indra received medical knowledge from the Aśvins, who in their turn received it from Prajāpati and Prajāpati received it from Brahmā.[131] Bharadvāja learns medical science from Indra, returns to the assembly of sages and reports on what he learnt.[132] But the account of Bharadvāja ends here quite abruptly. We are next told that Punarvasu Ātreya—one of the sages present in the assembly—expounds medicine to six of his disciples, called Agniveśa, Bhela, Jātukarṇa, Parāśara, Hārīta and Kṣārapāṇi, all of whom codify the oral instructions of Ātreya, though among these the version prepared by Agniveśa proves best. This is supposed to be the basis of our extant *Caraka-saṃhitā*.

It is interesting to note how little credibility is allowed to many features of this story by the *Caraka-saṃhitā* itself. If the medical knowledge received by the sages in the assembly is based on the revelation of Brahmā, the sages are at least supposed to agree on its basic principles. But the text records many medical debates in which at least some of the

131. *Ib.* i.1.4-5. 132. *Ib.* i.1.27.

sages mentioned as congregating in the original assembly —Punarvasu Ātreya, *bhikṣu* Ātreya, Kuśika, Baḍisa, Sāraloma Kāpya, Kāṅkāyana, Marīci, Śaunaka— are described as sharply differing with each other. Besides, the methodology of acquiring medical knowledge discussed at length in the *Caraka-saṃhitā* becomes meaningless once it is assumed that the knowledge is based on divine revelation.

The story of the divine origin of medical knowledge and of its transmission from Brahmā to Indra cannot thus be reconciled even to the extant *Caraka-saṃhitā*. But that does not mean that we are to scrap the entire account of the medical conference and view all the participants in it as purely fictitious characters. Thus, for example, the mention of Kāṅkāyana, the physician from Central Asia, as participating in the conference cannot be accounted for without assuming some compelling reason for it, and that reason is likely to be historical. But if Kāṅkāyana is not a purely legendary name, how can we be sure that Bharadvāja must have been so ? Filliozat does not oppose the possible historicity of Kāṅkāyana,[133] but he feels that Bharadvāja is "surely mythical".[134] One obvious reason for this is that Filliozat leaves the medical context and seeks for the identification of Bharadvāja in Vedic mythology, somewhat distortedly reiterated in the later Purāṇas and epics.[135] We are not obliged to connect all this with the person remembered in our medical compilation as the first theoretician of medical science. On the contrary, the fact that with his name the *Caraka-saṃhitā* leaves mythology and starts talking of human authorities on medicine may not be without significance. Could this significance be that to the first compilers of the medical tradition the name of this ancient authority—though remembered only by his *gotra*—was too important to be ignored and even the later editors of our text, in spite of their eagerness to sanctify medicine as divine revelation, could not dismiss it ?

In any case, how much of strict historicity can be attached

133. Filliozat 38 & note. 134. *Ib*. 4. 135. *Ib*. 4 ff. Cf. Mehta i.30. ff.

to Bharadvāja is not our main point. What concerns us is the simple fact that the *Caraka-saṃhitā* remembers him as the first human—and therefore credible—authority on medical science. Not that our text tells us much about the kind of knowledge communicated by him to the assembly of sages. However, even the little that we are told about it is of serious theoretical interest. As we have already seen,[136] he enumerates the six categories of substance, quality, etc., which are essential for the theoretical basis of Āyurveda.

The general theoretical structure suggested by these categories is totally this-worldly or "natural". It is not in the least indicative of the theory of the soul and its salvation, of rebirth and *karma*—in fact nothing of the metaphysics which, in the Śārīra-sthāna chapter, Bharadvāja is urged to accept.

In the account of the transmission of medical knowledge, we hear nothing about Bharadvāja after he imparts, to the assembled sages, the view of these mundane categories. But this leaves one question unanswered.

From what he is recorded to say, it is obvious that health depends on the right use of substances, i.e. according to their qualities and actions. This proposition is absolutely essential for ancient Indian medicine. But the question is : How do the substances with right qualities and actions determine health ? From the genuine medical viewpoint there is only one answer to it. They are by nature so. It is their *svabhāva*. Thus, in the account of the transmission of medical knowledge, because Bharadvāja really speaks only of the substances etc., he is by implication also committed to the view of *svabhāva*.

Not that our text tells us this in so many words. It simply drops Bharadvāja from the account of the transmission of medical knowledge and takes up Punarvasu Ātreya instead, whose oral instructions are supposed to be codified by Agniveśa. This abrupt dropping out of Bharadvāja, if not viewed as accidental, has to be accounted for. Could the reason be that the later editors and reconstructors of the *Caraka-saṃhitā*,

136. see *supra* p. 153ff.

who take a great deal of liberty with the text, find it somewhat embarassing to allow it to retain the theoretical implications of Bharadvāja's position in greater details, i.e. to the extent of allowing it to include the view of *svabhāva* as well ?

All this, it will be objected, is conjectural. But it is necessary to emphasise one point which is not at all conjectural. Apart from Kumāraśirā Bharadvāja, who in all presumption is a different physician, the *Caraka-saṃhitā* mentions the name of Bharadvāja only in three places.

First, in the account of the early spread of medical knowledge, which we read in the opening chapter of the Sūtra-sthāna.

Secondly, in the account of the medical debate given in chapter 25 of the Sūtra-sthāna, where Bharadvāja vigorously rejects *karma* and defends the view of *svabhāva.*

Thirdly, in chapter 3 of Śārīra-sthāna, which is specially designed to refute the view of Bharadvāja from the Vedāntic or quasi-Vedāntic standpoint.

These are all that we know about Bharadvāja from the *Caraka-saṃhitā.* Since our text does not tell us that the person mentioned in the first context is different from the one mentioned in the second and third contexts, the modern scholar can be justified in imagining such a difference only if there is any compelling reason to do so. In default of such a reason, the simple assumption remains that the identity of the name implies the identity of the person referred to.

But is there any reason compelling us to think that the name Bharadvāja in these different places refers to different persons ? The answer to this is to be sought mainly in the internal evidences of the *Caraka-saṃhitā.* But there is nothing in these evidences to suggest that in these different places the same name stands for three different persons.

This is the main reason that makes us think that the representative of the view of *svabhāva* whom we meet elsewhere in the text is the same person mentioned by it as the early authority on medical science. His view is much to the distaste of those that cram Vedāntic orthodoxy into our *Caraka-saṃhitā.* But his fame in the medical tradition

is too tenacious to be ignored. Hence is the need felt for a special chapter in refutation of his view.

The possibility of all this hinges on a simple point. In the same text the same name stands for the same person in different contexts. However, this simple possibility makes a devastating comment on the theoretical integrity of those who prepared the present version of the *Caraka-saṃhitā*. They not only add a bias of alien metaphysics to the medical compendium but moreover work deliberately to suppress the original theoretical basis of Indian medicine by fabricating the fiction that it is refuted by Punarvasu Ātreya, the alleged spokesman of medical science.

The tendency to disown the heritage of Bharadvāja seems to be corroborated by the later writers on Indian medicine. As Mehta observes, "Curiously enough, Vāgbhaṭa, who draws from all the *saṃhitā*-s extant at his time, portrays Punarvasu Ātreya as approaching Indra as leader of other sages among whom Bharadvāja is also one, and as learning the science of life from him. He is not indebted to Bharadvāja for his acquision of the science...Perhaps it is these and such other conflicting narratives that have made scholars believe Ātreya to be identical with Bharadvāja. But the learned Cakrapāṇi is emphatic on the different individualities of these two... A much later writer on medicine, Bhāvamiśra, of the sixteenth century, has three differing versions of the story of *āyurveda*. Evidently he contents himself by stating the actual versions then current in books and among the scholars of the science. He firstly narrates the story as told by Vāgbhaṭa wherein Ātreya, as the leader of a group of sages, receives his instruction from Indra... In the second story, he depicts Ātreya as approaching Indra, by himself, out of compassion for suffering humanity ; and having learnt the science from Indra, Ātreya writes a treatise on *āyurveda* and instructs his disciples Agniveśa, Bhela and others in it... According to the third story, once it happened that many sages met together on the slopes of the Himālayas. The first to arrive was the best among sages, Bharadvāja. Then all the sages that

congregated unanimously chose and besought Bharadvāja to repair to Indra and bring down the Āyurveda."[137]

Why do writers like Vāgbhaṭa and Bhāvamiśra say such things in spite of what is clearly stated in the *Caraka-saṃhitā* ? Is it because in the intellectual climate of their own times, the admission of the venerable authority of Bharadvāja becomes embarrassing, which therefore, they want to avoid either by eliminating him altogether from the account of the early transmisston of medical knowledge or by making his personality melt into that of Ātreya ? If this is so, can the reason be that these later writers are aware that the venerable Bharadvāja preaches a view which, in the standard of the officially boosted philosophy of their own times, becomes a mark of stark heresy ?

In any case, the question of Bharadvāja in the *Caraka-saṃhitā* seems to be too important to remain unsettled.

Mehta wants to settle it. He opens with a great tribute to Bharadvāja, the ancient authority on medicine. From the way in which our text describes his interest in the categories like *sāmānya*, *viśeṣa*, *samavāya*, etc.—categories that are extremely prominent in the Nyāya-Vaiśeṣika philosophy—Mehta argues : "It is therefore logical to surmise that Bharadvāja should have been famous as a teacher of logic. We find one Uddyotakara, the author of *Nyāya-vārtika*, referring to Bharadvāja as the author of Nyāya."[138] This may be misunderstanding the reference to the name Bharadvāja in the *Nyāya-vārtika*.[139] But that must not undermine the importance of the fact that Bharadvāja is at least one of the earliest names we are aware of which is associated with the view of these categories. But is this the same Bharadvāja that defends the view of *svabhāva* ? Mehta feels sure that this cannot be so, because there are many persons bearing the name Bharadvāja in the *Caraka-saṃhitā*. "Now we shall deal", says he, "with the accounts of the various other persons bearing the name of Bharadvāja that we meet in the *Caraka-saṃhitā*, so that there may be no mistake and confusion

137. Mehta i.35-7. 138. *Ib*. 37-8. 139. Vidyabhusana 124 & note. 5.

regarding the one Great Bharadvāja, the first propagator of the Science of Life on earth."[140]

Who, then, are the other Bharadvājas ?

One of them is supposed to be Kumāraśirā Bharadvāja, whom we have already discussed. But Mehta sees three more Bharadvājas in the text ! One of them is the defender of the view of *svabhāva* mentioned in the account of medical debate in chapter 25 of the Sūtra-sthāna. Referring to him Mehta observes : "There is another person by the name Bharadvāja who is a great scholar taking part in the learned discussions of the sages and propounding the theory of Nature or the innate quality of things as the cause of man as well as of his diseases."[141] But why should he be considered as a different person from the venerable authority mentioned in the opening chapter of the text ? Mehta gives no reason for this whatsoever and leaves us with the impression that such a view is a matter of his personal preference. This is surely not the way of expressing opinions on important textual questions. However, Mehta has greater surprise for us, because he discovers two more Bharadvājas in the Śārīra-sthāna chapter on his conversion. As he puts it, "In the latter part of Śārīra-sthāna, chapter 3, a Bharadvāja asks the teacher Ātreya a number of questions. This Bharadvāja seems to be merely a student who goes on asking questions, and evidently a different person from the learned Bharadvāja of the earlier part of the chapter, who has authoritative views of his own."[142]

Here is at least the semblance of some ground for distinguishing between two Bharadvājas in the same chapter. In the earlier part of the chapter Bharadvāja expresses authoritative views of his own and hence is to be considered a learned person. In the latter part of the chapter Bharadvāja only asks questions and hence is to be considered a mere student of Ātreya.

But the difficulty about all this is that these have absolutely nothing to do with what we really read in the text. The entire chapter maintains a perfect continuity of the position attributed

140. Mehta i.41. 141. *Ib.* i.42. 142. *Ib.* i.43.

to Bharadvāja and the mnemonical verse at its end leaves no scope whatsoever to imagine any distinction between a learned Bharadvāja and a student Bharadvāja. It simply tells us that the chapter embodies the view of Ātreya, the view of Bharadvāja and the refutation of the latter. Besides, the assumption that in the latter half of the chapter Bharadvāja only asks questions to Ātreya in the manner of a mere student is based at best on a simple misunderstanding. The fact on the contrary is that the strongest expressions used by Bharadvāja in rejection of the view attributed to Ātreya are to be found in his concluding words, where he says that all this is mere verbose nonsense. This is surely not raising any question in the manner of a mere student. Even the questions and further questions that Bharadvāja is made to raise in the course of the debate are not to be misunderstood. These represent nothing but a recognised mode of polemizing intended to show the absurdity of the opponent's thesis. The *Caraka-saṃhitā* itself is fully aware of it. In the course of the discussion on the technique of debate, this mode of polemizing is referred to as *anuyoga* and *pratyanuyoga*, meaning "question" and 'questioning the question.'[143]

All this is so palpable that the ground on which Mehta distinguishes between two Bharadvājas in chapter 3 of Śārīra-sthāna hardly deserves any serious discussion. However, if this be so where at least some semblance of evidence is mentioned for the distinction, what is the value of making a distinction where no ground at all is mentioned for it ? This is so when Mehta says that the name Bharadvāja in chapter 1 and chapter 25 of the Sūtra-sthāna must be taken as referring to two different persons.

Yet it is not difficult to guess what annoys the modern scholar about the possible identity of the two. In the later ideological climate of the country—shared consciously or unconsciously by most of the modern scholars—the view of *svabhāva* is considered starkly heretical. How can an ancient authority as venerable as Bharadvāja represent it ? But the answer to this question seems to be quite simple. Bharadvāja is a

143. *Caraka-saṃhitā* iii 8.52.

physician while the understanding of *svabhāva* as a heresy is characteristic of the metaphysician interested in the soul and its salvation. The original theoretical basis of Indian medicine is as much heretical from the standpoint of this metaphysics as are its practical prescriptions on foods and drinks from the standpoint of piety preached by our law-givers. When, in open violation of the norm of the ancient physicians, a pronounced bias for this metaphysics is added to the text, the need is felt to make a show of the metaphysician refuting the theoretical position of the ancient physician. In view of Bharadvāja's stature as an authority on medicine, a special chapter had to be grafted into the text describing Ātreya as trying his best to convert Bharadvāja.

14. SUMMING UP

The *Caraka-saṃhitā* is nothing if not a work on medicine. Medicine as understood by it, depends on four factors : doctor, substance, nurse and patient. Propositions discussing these and these alone belong to the medical context. According to the rules formulated by some ancient doctors, ideas and attitudes belonging to other contexts—specially to the contexts of ritual (*karma-kāṇḍa*) and liberation (*jñāna-kāṇḍa*)—if allowed in medical discussion, results in the fallacy of contradiction.

But the only form in which the medical compilation reaches us is full of alien propositions like these. These are, therefore, to be viewed as extrinsic to medicine, loosely inserted into the medical work.

When we scrap these and concentrate on the hard core of medicine contained in it, we cannot but he amazed by the science-consciousness of the ancient doctors judged in its historical context, for there are grounds to think that the fundamentals of their rational therapeutics are worked out sometime before the Buddha, or, at any rate, sometime before the codification of the *Vinaya-piṭaka*.

But this science-consciousness goes strongly against the ideo-

logical requirements of the hierarchical society. The custodians of the counter-ideology, interested in drawing a mystical veil on man and nature, sense danger practically in every aspect of science-consciousness—its secularism, its enthusiasm for rational processing of empirical data, its materialism and its democratic commitment. Hence they come out viciously against medicine and its practitioners. There is continuous condemnation of doctors and surgeons from *Yajurveda* to the later commentaries on *Manu-smṛti*.

When the demand for the ideological requirements of the law-givers becomes specially oppressive, at least a section of the scientists try to evade censorship by conceding to it, though at the cost of self-consistency. The astronomer Brahmagupta does this and the presumption is that the same is done by those through whose hands the medical compilation passes before reaching us. This seems to account for the quaint form eventually assumed by the *Caraka-saṃhitā*. To add apparent conviction to its loyalty to the norm of orthodox piety, special chapters are added to the text for loudly proclaiming the theory of soul and its salvation. There is moreover some show of a posthumous conversion of Bharadvāja—the earliest theoretician of medicine our text is aware of—into a follower of the counter-ideology. He is urged to renounce the heretical views he originally represents.

Fortunately, all this does not go to the fanatical extent of destroying what is once achieved by the ancient doctors. These survive under the heap of intellectual debris eventually dumped on them.

What proves fatal for the creative development of Indian medicine is the gradual erosion among the later doctors of the sense of total incompatibility between science and counter-ideology in the source-books of Indian medicine. They attach a sheer pragmatic value to the ancient drugs and decoctions and, practically oblivious of the marvellous science potentials or the theoretical achievements of the ancient doctors, go on dogmatically reiterating certain formulas about *vāyu, pitta* and *kapha*, as universal solvents of all pathogenic problems. The methodology of science once worked out is practically forgotten, and

so also the zeal to develop a deeper insight into man and nature, inspired by the conviction that this alone can relieve human beings from avoidable sufferings or curable diseases. What is perhaps worst is the make-believe among the later doctors that the ransoms offered to the counter-ideology for protecting science belong as it were to science itself, so that there is no difficulty in accepting Āyurveda along with the entire gamut of the theory of soul, *karma*, rebirth, salvation, not to speak of the sundry suprestitions required by the law-givers. This is about the most serious internal cause accounting for the decadence and eventual collapse of Indian medicine.

But the basic theoretical positions developed by the ancient doctors are not entirely lost to Indian culture. These survive in the general fund of Indian philosophy as the original nucleus of the Nyāya-Vaiśeṣika philosophy. But that is a different story and we propose to discuss it separately.

Bibliography & Abbreviations

Ait. Br.—Aitareya Brāhmaṇa.
Ait. Up.—Aitareya Upaniṣad.
Āpastamba—Āpastamba Dharma Sūtra.
Aṣṭāṅga-saṃgraha KSS-ed, Varanasi 1945.
Av—Atharvaveda.
B.—Bhisagratna, Kaviraj Kunjalal.
Bandopadhyaya, P.—*Racanāvalī* (Bengali). 2 vols.
Baudhāyana—Baudhāyana Dharma Sūtra.
Bernal, J.D.—*Science in History*. 4 vols. Penguin 1969.
Bhisagratna, K.—*An English Translation of the Suśruta-saṃhitā* 3 vols. Reprint Varanasi 1963.
Balwant Singh, T. & Chunekar, K. C.—*Glossary of Vegetable Drugs in Bṛhattrayī*, Varanasi 1972.
Bodding, P.O.—*Studies in Santhal Medicine & Connected Folklore*. Calcutta 1925.
Br. Su.—Brahma-sūtra.
Br. Up.—Bṛhadāraṇyaka Upaniṣad.
Briffault, R.—*The Mothers*. 3 vols. London 1952 ed.
Caraka-saṃhitā. (ed P.M. Mehta). 6 vols. Jamnagar 1949.
Chattopadhyaya, D.—*Lokāyata : A Study in Ancient Indian Materialism*. New Delhi 1959.
—*What is Living & What is Dead in Indian Philosophy*. New Delhi 1976.
—(ed) *Tāranātha's History of Buddhism in India*. Simla 1970.
& Gangopadhyaya M.—*Nyāya Philosophy*. Vols. 1-2. Calcutta 1967-8.
Childe, G.—*What Happened in History*. Penguin 1957.
CHSI—*A Concise History of Science in India*. (ed. D.M. Bose *et al*), New Delhi 1971
Ch. Up.—Chāndogya Upaniṣad.

Dasgupta, S. B.—*Obscure Religious Cults as Background of Bengali Literature.* Calcutta 1946.
Dasgupta, S. N.—*History of Indian Philosophy.* Vols. 1-4. Cambridge 1922-55.
Deussen, P.—*The System of Vedānta.* Edinburgh 1906.
Dutt, N.—*Early Monastic Buddhism.* Calcutta 1960.
ERE—Encyclopaedia of Religion & Ethics. (ed. Hastings).
Engels, F.—*Anti-Duhring.* Moscow 1957 ed.
—*Dialectics of Nature.* Moscow 1964 ed.
—*Socialism : Utopian and Scientific.* Moscow 1968 ed.
Farrington, B.—*Greek Science.* Penguin 1963 ed
—*Head and Hand in Ancient Greece.* London 1947.
—*Science and Politics in the Ancient World.* London 1946.
Filliozat, J.—*The Classical Doctrine of Indian Medicine.* Delhi 1964.
Guṇaratna—Tarka-rahasya-dīpikā.
Gautama—Gautama Dharma Sūtra.
HB—History of Bengal. (ed. R. C. Majumdar). Vol i, Dacca 1943.
Hiriyanna, M.—*Outlines of Indian Philosophy.* Bombay 1973 ed.
IHR—Indian Historical Review. New Delhi 1974.
IMILL—Impact of Marxism on Indian Life & Literature. (ed. H. M. Nayak). Mysore 1972.
Jayanta Bhaṭṭa—Nyāya-mañjarī. KSS-ed, Varanasi 1936.
Jones, W.H.S.—*Hippocrates.* 4 vols. (Loeb) London 1972 ed.
JRAS—Journal of the Royal Asiatic Society.
Kane, P.V.—*History of Dharmaśāstra.* Vols. 1-2. Poona 1930-41.
Kaṭha Up.—Kaṭha Upaniṣad
Kauṣ. Br.—Kauṣitakī Brāhmaṇa.
Kauṣ. Up.—Kauṣitakī Upaniṣad.
Keith, A.B.—*A History of Sanskrit Literature.* Oxford 1928.
—*The Veda of the Black Yajus School.* HOS
—*Religion and Philosophy of the Veda & Upaniṣada.* HOS.

Kern, J.H.C.—*Manual of Indian Buddhism.* Strassburg 1896.
Keswani, N.H. (ed)—*The Science of Medicine & Physiological Conceptions in Ancient & Medieval India.* New Delhi 1974.
Kosambi, D.D.—*The Culture and Civilization of Ancient India.* London 1964.
KSS—Kasi Sanskrit Series.
Lenin, V.I.—*Materialism and Empirio-criticism.* Moscow 1970 ed.
M—Mehta, P.M.
Macdonell, A.A.—*Vedic Mythology.* Strassburg 1897.
& Keith, A.B.—*Vedic Index.* 2 vols. London 1912.
Mādhava—Sarva-darśana-saṃgraha. Anandasrama ed. 1928.
Mait. Saṃ.—Maitrāyaṇī Saṃhitā.
Mait. Up.—Maitrāyaṇī Upaniṣad.
Māṇḍ. Up.—Māṇḍūkya Upaniṣad.
Manu—Manu-smṛti.
Mbh.—Mahābhārata. Gita Press ed.
Mehta, P.M. (ed)—Caraka-saṃhitā. 6 vols. With English Tr. Jamnagar 1949.
Milinda—Milindapañha.
Monier-Williams, M.—*Sanskrit-English Dictionary.* Oxford 1899.
Muir, J.—*Original Sanskrit Texts.* London 1873.
Mukhopadhyaya, G.—*History of Indian Medicine.* 3 vols. Calcutta 1922-29.
Muṇḍ. Up.—Muṇḍaka Upaniṣad.
Phanibhusana Tarkavagisa—*Nyāya-darśana.* 5 vols. (Bengali). Calcutta 1324-36 (Bengali yr.)
Needham, J.—*Science and Civilization in China.* Vol. ii. Cambridge 1965.
Nehru, J.—*Discovery of India.* Calcutta 1956 ed.
NNMRP—Nava Nalanda Mahavihara Research Publications. Nalanda 1957—
Praś. Up.—Praśna Upaniṣad.
Ray, P. & Gupta, H. N.—*Caraka-saṃhitā : A Scientific Synopsis.* New Delhi 1965.
Ṛv—Ṛgveda.
Sachau, E.C.—*Al-Beruni's India.* New Delhi 1964 ed.
Sarva-mata-saṃgraha.—Edited Ganapati Sastri.

Śat. Br.—Śatapatha Brāhmaṇa. Tr. J. Eggeling. SBE vols. xii; xxvi, xli, xliii, xliv.
SBE—Sacred Books of the East. (ed. Max Muller).
SBS—Saraswati Bhawan Series. (ed G. Kaviraj).
Schweglar, A.—*A Handbook of the History of Philosophy.* London 1847.
Sengupta, Devendranatha & Upendranatha—*Bengali Translation of the Suśruta-saṃhitā.* Calcutta 1331 (Bengali yr.).
Sharma Priyabrata—Āyurved-kā-vaijñānik-itihās (Hindi). Varanasi 1975.
Sharma, R. S.—*Aspects of Political Ideas & Institutions in Ancient India.* New Delhi 1959.
Sircar, D.C.—*Cosmography & Geography in Early Indian Literature.* Calcutta 1967.
Sigerist, H.E.—*A History of Medicine.* 2 Vols. Yale 1951-61.
SSSA—Science, Society & Scientific Attitude. Bangalore 1976.
Stcherbatsky Th.—*Conception of Buddhist Nirvāṇa.* Reprint Varanasi.
Suśruta-saṃhitā KSS, Varanasi 1973 ed.
Śvet. Up.—Śvetāśvatara Upaniṣad.
Taitt. Sam.—Taittirīya Saṃhitā.
Taitt. Up.—Taittirīya Upaniṣad.
Takakusu, J.—*A Record of Buddhist Religion as Practised in India Etc.* London 1966.
Thapar, R.—*A History of India* Vol. i. Penguin 1966.
Thomson, G.—*Studies in Ancient Greek Society.* Vol. i. London 1949.
Vaśiṣṭha—Vaśiṣṭha Dharma Sūtra.
Venkata Ramanan, K.—*Nāgārjuna's Philosophy.* Harvard 1966.
Vidyabhusana, S.C.—*History of Indian Logic.* Calcutta 1921.
Viṣṇu—Viṣṇu Dharma Sūtra.
Winternitz—*A History of Indian Literature.* Vols. 1-2, Calcutta 1927-33. Vol.3, Pt.1, Delhi 1967.
Yājñavalkya—Yājñavalkya-smṛti.

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